
**Industrial automation systems and
integration — Product data representation
and exchange —**

Part 324:

**Abstract test suite: Mechanical product
definition for process plans using
machining features**

*Systèmes d'automatisation industrielle et intégration — Représentation et
échange de données de produits —*

*Partie 324: Suite d'essais abstraits: Définition de produits mécaniques pour
les plans de procédés utilisant des caractéristiques d'usinage*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed every three years with a view to deciding whether it can be transformed into an International Standard.

ISO/TS 10303-324 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC4, *Industrial data*.

ISO 10303 consists of the following parts under the general title *Industrial automation systems and integration - Product data representation and exchange*:

- Part 1, Overview and fundamental principles;
- Part 11, Description methods: The EXPRESS language reference manual;
- Part 12, Description method: The EXPRESS-I language reference manual;
- Part 21, Implementation methods: Clear text encoding of the exchange structure;
- Part 22, Implementation method: Standard data access interface specification;

- Part 23, Implementation method: C++ language binding to the standard data access interface;
- Part 24, Implementation method: C language binding to the standard data access interface;
- Part 26, Implementation method: Interface definition language binding to the standard data access;
- Part 31, Conformance testing methodology and framework: General concepts;
- Part 32, Conformance testing methodology and framework: Requirements on testing laboratories and clients;
- Part 34, Conformance testing methodology and framework: Abstract test methods;
- Part 35, Conformance testing methodology and framework: Abstract test methods for SDAI implementations;
- Part 41, Integrated generic resources: Fundamentals of product description and support;
- Part 42, Integrated generic resources: Geometric and topological representation;
- Part 43, Integrated generic resources: Representation structures;
- Part 44, Integrated generic resources: Product structure configuration;
- Part 45, Integrated generic resource: Materials;
- Part 46, Integrated generic resources: Visual presentation;
- Part 47, Integrated generic resource: Shape variation tolerances;
- Part 49, Integrated generic resource: Process structure and properties;
- Part 101, Integrated application resource: Draughting;
- Part 104, Integrated application resource: Finite element analysis;
- Part 105, Integrated application resource: Kinematics;
- Part 106, Integrated application resource: Building construction core model;
- Part 201, Application protocol: Explicit draughting;
- Part 202, Application protocol: Associative draughting;
- Part 203, Application protocol: Configuration controlled design;

- Part 204, Application protocol: Mechanical design using boundary representation;
- Part 205, Application protocol: Mechanical design using surface representation;
- Part 207, Application protocol: Sheet metal die planning and design;
- Part 208, Application protocol: Life cycle management - Change process;
- Part 209, Application protocol: Composite and metallic structural analysis and related design;
- Part 210, Application protocol: Electronic assembly, interconnect, and packaging design;
- Part 212, Application protocol: Electrotechnical design and installation
- Part 213, Application protocol: Numerical control process plans for machined parts;
- Part 214, Application protocol: Core data for automotive mechanical design processes;
- Part 215, Application protocol: Ship arrangement;
- Part 216, Application protocol: Ship moulded forms;
- Part 217, Application protocol: Ship piping;
- Part 218, Application protocol: Ship structures;
- Part 221, Application protocol: Functional data and their schematic representation for process plant;
- Part 222, Application protocol: Exchange of product data for composite structures;
- Part 223, Application protocol: Exchange of design and manufacturing product information for casting parts;
- Part 224, Application protocol: Mechanical product definition for process plans using machining features;
- Part 225, Application protocol: Building elements using explicit shape representation;
- Part 226, Application protocol: Ship mechanical systems;
- Part 227, Application protocol: Plant spatial configuration;
- Part 229, Application protocol: Exchange of design and manufacturing product information for forged parts;

- Part 230, Application protocol: Building structural frame: Steelwork;
- Part 231, Application protocol: Process engineering data: Process design and process specification of major equipment;
- Part 232, Application protocol: Technical data packaging core information and exchange;
- Part 301, Abstract test suite: Explicit draughting;
- Part 302, Abstract test suite: Associative draughting;
- Part 303, Abstract test suite: Configuration controlled design;
- Part 304, Abstract test suite: Mechanical design using boundary representation;
- Part 305, Abstract test suite: Mechanical design using surface representation;
- Part 307, Abstract test suite: Sheet metal die planning and design;
- Part 308, Abstract test suite: Life cycle management - Change process;
- Part 309, Abstract test suite: Composite and metallic structural analysis and related design;
- Part 310, Abstract test suite: Electronic assembly, interconnect, and packaging design;
- Part 312, Abstract test suite: Electrotechnical design and installation;
- Part 313, Abstract test suite: Numerical control process plans for machined parts;
- Part 314, Abstract test suite: Core data for automotive mechanical design processes;
- Part 315, Abstract test suite: Ship arrangement;
- Part 316, Abstract test suite: Ship moulded forms;
- Part 317, Abstract test suite: Ship piping;
- Part 318, Abstract test suite: Ship structures;
- Part 321, Abstract test suite: Functional data and their schematic representation for process plant;
- Part 322, Abstract test suite: Exchange of product data for composite structures;
- Part 323, Abstract test suite: Exchange of design and manufacturing product information for casting parts;

- Part 324, Abstract test suite: Mechanical product definition for process plans using machining features;
- Part 325, Abstract test suite: Building elements using explicit shape representation;
- Part 326, Abstract test suite: Ship mechanical systems;
- Part 327, Abstract test suite: Plant spatial configuration;
- Part 329, Abstract test suite: Exchange of design and manufacturing product information for forged parts;
- Part 330, Abstract test suite: Building structural frame: Steelwork;
- Part 331, Abstract test suite: Process engineering data: Process design and process specification of major equipment;
- Part 332, Abstract test suite: Technical data packaging core information and exchange;
- Part 501, Application interpreted construct: Edge-based wireframe;
- Part 502, Application interpreted construct: Shell-based wireframe;
- Part 503, Application interpreted construct: Geometrically bounded 2D wireframe;
- Part 504, Application interpreted construct: Draughting annotation;
- Part 505, Application interpreted construct: Drawing structure and administration;
- Part 506, Application interpreted construct: Draughting elements;
- Part 507, Application interpreted construct: Geometrically bounded surface;
- Part 508, Application interpreted construct: Non-manifold surface;
- Part 509, Application interpreted construct: Manifold surface;
- Part 510, Application interpreted construct: Geometrically bounded wireframe;
- Part 511, Application interpreted construct: Topologically bounded surface;
- Part 512, Application interpreted construct: Faceted boundary representation;
- Part 513, Application interpreted construct: Elementary boundary representation;
- Part 514, Application interpreted construct: Advanced boundary representation;

- Part 515, Application interpreted construct: Constructive solid geometry;
- Part 517, Application interpreted construct: Mechanical design geometric presentation;
- Part 518, Application interpreted construct: Mechanical design shaded presentation.

The structure of this International Standard is described in ISO 10303-1. The numbering of the parts of the International Standard reflects its structure:

- Parts 11 to 12 specify the description methods,
- Parts 21 to 26 specify the implementation methods,
- Parts 31 to 35 specify the conformance testing methodology and framework,
- Parts 41 to 49 specify the integrated generic resources,
- Parts 101 to 106 specify the integrated application resources,
- Parts 201 to 232 specify the application protocols,
- Parts 301 to 332 specify the abstract test suites, and
- Parts 501 to 518 specify the application interpreted constructs.

Should further parts be published, they will follow the same numbering pattern.

Annexes A, B and C form an integral part of this part of ISO 10303. Annex D is for information only.

Introduction

ISO 10303 is an International Standard for the computer-interpretable representation and exchange of product data. The objective is to provide a neutral mechanism capable of describing product data throughout the life cycle of a product independent from any particular system. The nature of this description makes it suitable not only for neutral file exchange, but also as a basis for implementing and sharing product databases and archiving.

This International Standard is organized as a series of parts, each published separately. The parts of ISO 10303 fall into one of the following series: description methods, integrated resources, application protocols, abstract test suites, implementation methods, and conformance testing. The series are described in ISO 10303-1. This part of ISO 10303 is a member of the abstract test suite series.

The purpose of an abstract test suite is to provide a basis for evaluating whether a particular implementation of an application protocol actually conforms to the requirements of that application protocol. A standard abstract test suite helps ensure that evaluations of conformance are conducted in a consistent manner by different test laboratories.

This part of ISO 10303 specifies the abstract test suite for ISO 10303-224, application protocol Mechanical product definition for process planning using machining features. The abstract test cases presented here are the basis for conformance testing of implementations of ISO 10303-224.

This abstract test suite is made up of two major parts:

- the test purposes, the specific items to be covered by conformance testing;
- the set of abstract test cases that meet those test purposes.

The test purposes are statements of the application protocol requirements that are to be addressed by the abstract test cases. Test purposes are derived primarily from the application protocol's information requirements and AIM, as well as from other sources such as standards referenced by the application protocol and other requirements stated in the application protocol conformance requirements clause.

The abstract test cases address the test purposes by:

- specifying the requirements for input data to be used when testing an implementation of the application protocol;
- specifying the verdict criteria to be used when evaluating whether the implementation successfully converted the input data to a different form.

The abstract test cases set the requirements for the executable test cases that are required to actually conduct a conformance test. Executable test cases contain the scripts, detailed values, and other explicit information required to conduct a conformance test on a specific implementation of the application protocol.

At the time of publication of this document, conformance testing requirements had been established for implementations of application protocols in combination with ISO 10303-21. This part of ISO 10303 only specifies test purposes and abstract test cases for a subset of such implementations.

For ISO 10303-21, two kinds of implementations, preprocessors and postprocessors, must be tested. Both of these are addressed in this abstract test suite.

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Industrial automation systems and integration — Product data representation and exchange — Part 324: Abstract test suite: Mechanical product definition for process planning using machining features

1 Scope

This part of ISO 10303 specifies the abstract test suite to be used in the conformance testing of implementations of ISO 10303-224. The following are within the scope of this part of ISO 10303:

- the specification of the test purposes associated with ISO 10303-224;
- the verdict criteria to be applied during conformance testing of an implementation of ISO 10303-224 using ISO 10303-21 or ISO 10303-22;

NOTE - The verdict criteria are used to ascertain whether a test purpose has been satisfactorily met by an implementation under test (IUT) within the context of a given test case.

- the abstract test cases to be used as the basis for the executable test cases for conformance testing.

The following are outside the scope of this part of ISO 10303:

- the creation of executable test cases;
- test specifications for tests other than conformance testing such as interoperability or acceptance testing;
- other implementation methods.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 10303-1:1994, *Industrial automation systems and integration — Product data representation and exchange — Part 1: Overview and fundamental principles.*

ISO 10303-11:1994, *Industrial automation systems and integration — Product data representation and exchange — Part 11: Description methods: The EXPRESS language reference manual.*

ISO 10303-21:1994, *Industrial automation systems and integration — Product data representation and exchange — Part 21: Implementation method: Clear text encoding of the exchange structure.*

ISO 10303-22:1994, *Industrial automation systems and integration — Product data representation and exchange — Part 22: Implementation method: Standard data access interface.*

ISO 10303-31:1994, *Industrial automation systems and integration — Product data representation and exchange — Part 31: Conformance testing methodology and framework: General concepts.*

ISO 10303-32:1998, *Industrial automation systems and integration — Product data representation and exchange — Part 32: Conformance testing methodology and framework: Requirements on testing laboratories and clients.*

ISO 10303-224:1999, *Industrial automation systems and integration — Product data representation and exchange — Part 224: Application protocol: Mechanical product definition for process planning using machining features.*

3 Terms, definitions, and abbreviations

3.1 Terms defined in ISO 10303-1

For the purpose of this part of ISO 10303, the following terms defined in ISO 10303-1 apply.

- abstract test suite (ATS);
- application protocol (AP);
- implementation method.

3.2 Terms defined in ISO 10303-31

For the purpose of this part of ISO 10303, the following terms defined in ISO 10303-31 apply.

- abstract test case (ATC);
- conformance testing;
- executable test case;
- implementation under test (IUT);
- postprocessor;
- preprocessor;
- test purpose;
- verdict criterion.

3.3 Terms defined in ISO 10303-224

For the purpose of this part of ISO 10303, the following terms defined in ISO 10303-224 apply.

- design_exception;
- feature_definition_item;
- feature_profile;
- manufacturing_feature;
- manufacturing_part_properties;
- manufacturing_process_control_documentation;
- manufacturing_process_requirement_documents;
- measurement_limitations;
- part_administration_data;
- part_model;

- requisitions;
- shape_representation_for_machining.

3.4 Other terms and definitions

For the purposes of this part of ISO 10303, the following definitions apply.

3.4.1

application element

an application object, attribute, or assertion defining the information requirements in clause 4 of an application protocol.

3.4.2

application element test purpose

a test purpose derived from the application elements in the ARM of an application protocol.

3.4.3

application interpreted model test purpose

a test purpose derived from the AIM EXPRESS schema of an application protocol.

3.4.4

domain test purpose

a test purpose that arises from the requirements that are implicit in an application protocol and derived from usage scenarios and the process and information flows in the application domain of an application protocol.

3.4.5

external reference test purpose

test purpose derived from requirements that arise from standards referenced by an application protocol.

3.4.6

input specification

the instance model of an abstract test case presented in an unambiguous form, the table format for preprocessors and physical files (ISO 10303-21).

3.4.7

Coordinate System zero

the position used for placement and location for test case parts.

3.5 Abbreviations

For the purpose of this part of ISO 10303, the following abbreviations apply:

AE	application element
AIM	application interpreted model
AP	application protocol
ARM	application reference model
CC	conformance class
CS0	coordinate system zero
IUT	implementation under test
UoF	unit of functionality

4 Test purposes

This clause specifies the test purposes for this part of ISO 10303. Test purposes in 4.1 and 4.2 are derived from the information requirements contained in clause 4 of ISO 10303-224 and the AIM EXPRESS schema in annex A of ISO 10303-224, and common usage scenarios. Each test purpose statement identifies some specific element from the AEs or the AIM. These test purpose statements implicitly require that the identified element, as specified in the test purpose statement, will be correctly instantiated by the implementation under test.

Implementation method test purposes in 4.3 are derived from ISO 10303-21. Implementation method and domain test purposes are individually identified by the prefix “other” in the test purpose number. These test purposes are statements of requirements that shall be met by a conforming implementation.

4.1 Application element test purposes

AE test purposes are individually identified by the prefix “ae” in the test purpose number. Each test purpose derived from the information requirements shall be interpreted as given in the following statement: the IUT shall preserve the semantics associated with the unique application element from which the test purpose was derived. This implies that the semantics of the application element are preserved by the IUT between the input and output of a test, according to the reference path specified in the mapping table of the AP. AE test purposes apply to the input specifications of both preprocessor and postprocessor test cases. AE test purposes are derived from the AP information requirements as follows:

- application objects (see 4.2 of ISO 10303-224). A test purpose derived from an application object is a simple statement of the object's name. Each application object test purpose is documented in a separate subclause.
- application objects with categorisations (subtypes) (see 4.2 of ISO 10303-224). Test purposes derived from application objects with categorisations are statements of the application object name as a specific subtype.
- application object attributes (see 4.2 of ISO 10303-224). Test purposes derived from application object attributes are statements of the application object name with a specific attribute name.
- application assertions (see 4.3 of ISO 10303-224). Test purposes derived from application assertions are statements describing the relationship between two application objects. Application assertion test purposes address the directions of relationships as well as the number (cardinality) of relationships.

Each application object test purpose is listed as a separate subclause, with its related application object attribute test purposes and assertion test purposes.

4.1.1 Alternate_material

- ae1 Alternate_material (see 6.2, 6.3)
- ae2 Alternate_material with alternate_ranking (see 6.2, 6.3)
- ae4 Alternate_material has the material_substitute defined by exactly one Material (see 6.2, 6.3)
- ae5 Alternate_material defines the alternate_material_definition for exactly one Part (see 6.2)

4.1.2 Angle_taper

- ae6 Angle_taper (see 6.4, 6.5, 6.6, 6.13, 6.22)
- ae8 Angle_taper has the angle defined by exactly one Numeric_parameter (see 6.4, 6.5, 6.6, 6.13, 6.22)
- ae9 Angle_taper defines the reduced_size for zero Outer_diameter
- ae10 Angle_taper defines the reduced_size for one Outer_diameter
- ae11 Angle_taper defines the reduced_size for many Outer_diameter
- ae12 Angle_taper defines the change_in_boundary for zero General_boss
- ae13 Angle_taper defines the change_in_boundary for one General_boss (see 6.5)
- ae14 Angle_taper defines the change_in_boundary for many General_boss
- ae15 Angle_taper defines the change_in_diameter for zero Circular_boss
- ae16 Angle_taper defines the change_in_diameter for one Circular_boss (see 6.5)
- ae17 Angle_taper defines the change_in_diameter for many Circular_boss
- ae18 Angle_taper defines the change_in_boundary for zero Pocket
- ae19 Angle_taper defines the change_in_boundary for one Pocket
- ae20 Angle_taper defines the change_in_boundary for many Pocket
- ae21 Angle_taper defines the change_in_diameter for zero Round_hole
- ae22 Angle_taper defines the change_in_diameter for one Round_hole (see 6.4)
- ae23 Angle_taper defines the change_in_diameter for many Round_hole (see 6.4)

4.1.3 Angular_dimension_tolerance

- ae24 Angular_dimension_tolerance (see 6.25)
- ae25 Angular_dimension_tolerance with major_angle (see 6.25)
- ae26 Angular_dimension_tolerance with mirror_origin (see 6.25)
- ae27 Angular_dimension_tolerance with mirror_termination (see 6.25)

4.1.4 Angular_size_dimension_tolerance

- ae28 Angular_size_dimension_tolerance (see 6.22)
- ae29 Angular_size_dimension_tolerance with full_or_half (see 6.22)
- ae30 Angular_size_dimension_tolerance with major_angle (see 6.22)

4.1.5 Angularity_tolerance

- ae31 Angularity_tolerance (see 6.24)
- ae33 Angularity_tolerance with segment_size (see 6.24)
- ae34 Angularity_tolerance has the geometric_reference defined by exactly one Datum (see 6.24)

4.1.6 Approval

- ae35 Approval (see 6.1, 6.2, 6.3)
- ae37 Approval with approval_date (see 6.1, 6.2, 6.3)
- ae39 Approval with status = approved (see 6.3)
- ae40 Approval with status = disapproved (see 6.3)
- ae41 Approval with status = not_yet_approved (see 6.2)
- ae42 Approval with status = withdrawn (see 6.1)
- ae43 Approval has the approval_authority defined by one Person_in_organization (see 6.1, 6.2)
- ae44 Approval has the approval_authority defined by many Person_in_organization (see 6.3)
- ae45 Approval defines the manufacturer_authorization for zero Part (see 6.1)
- ae46 Approval defines the manufacturer_authorization for one Part (see 6.2)
- ae47 Approval defines the manufacturer_authorization for many Part
- ae48 Approval defines the release_authorization for zero Project_Order
- ae49 Approval defines the release_authorization for one Project_Order (see 6.2)

4.1.7 Base_shape

- ae50 Base_shape (excluded, is an abstract supertype)
- ae51 Base_shape as Explicit_base_shape_representation (excluded, is an abstract supertype)
- ae52 Base_shape as Implicit_base_shape_representation (excluded, is an abstract supertype)
- ae53 Base_shape defines the base_shape_definition for exactly one Shape (see 6.4)

4.1.8 Blind_bottom_condition

ae54 Blind_bottom_condition (excluded, is an abstract supertype)
 ae55 Blind_bottom_condition as Conical_hole_bottom (excluded, is an abstract supertype)
 ae56 Blind_bottom_condition as Flat_hole_bottom (excluded, is an abstract supertype)
 ae57 Blind_bottom_condition as Flat_with_radius_hole_bottom (excluded, is an abstract supertype)
 ae58 Blind_bottom_condition as Spherical_hole_bottom (excluded, is an abstract supertype)
 ae60 Blind_bottom_condition with start_or_end = TRUE (see 6.4)
 ae61 Blind_bottom_condition with start_or_end = FALSE (see 6.4)
 ae62 Blind_bottom_condition defines the bottom_condition for zero Round_hole
 ae63 Blind_bottom_condition defines the bottom_condition for one Round_hole (see 6.4)
 ae64 Blind_bottom_condition defines the bottom_condition for many Round_hole (see 6.4)

4.1.9 Block_base_shape

ae65 Block_base_shape (see 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.13, 6.15, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.26)
 ae68 Block_base_shape has the width defined by exactly one Numeric_parameter (see 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.13, 6.15, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.26)
 ae69 Block_base_shape has the height defined by exactly one Numeric_parameter (see 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.13, 6.15, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.26)

4.1.10 Boss

ae70 Boss (excluded, is an abstract supertype)
 ae71 Boss as Circular_boss (excluded, is an abstract supertype)
 ae72 Boss as General_boss (excluded, is an abstract supertype)
 ae73 Boss with boss_height (excluded, is an abstract supertype)
 ae74 Boss with fillet_radius (excluded, is an abstract supertype)
 ae75 Boss with top_condition (excluded, is an abstract supertype)
 ae76 Boss has the top_condition defined by exactly one Boss_top_condition (see 6.5, 6.12, 6.15)
 ae77 Boss has the boss_height defined by exactly one Linear_path (see 6.5, 6.12, 6.15)
 ae78 Boss has the fillet_radius defined by exactly one Numeric_parameter (see 6.5, 6.12, 6.15)

4.1.11 Boss_top_condition

ae79 Boss_top_condition (see excluded, is an abstract supertype)
 ae80 Boss_top_condition as General_top_condition (see excluded, is an abstract supertype)
 ae81 Boss_top_condition as Planar_top_condition (see 6.5)
 ae82 Boss_top_condition with start_or_end (see excluded, is an abstract supertype)
 ae83 Boss_top_condition with start_or_end = TRUE (see 6.5, 6.1)
 ae84 Boss_top_condition with start_or_end = FALSE (see 6.5, 6.12, 6.15)

ae85 Boss_top_condition defines the top_condition for zero Boss
ae86 Boss_top_condition defines the top_condition for one Boss (see 6.5)
ae87 Boss_top_condition defines the top_condition for many Boss

4.1.12 Brep_model

ae88 Brep_model (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12, 6.13, 6.14, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27)
ae89 Brep_model defines the removal_volume for zero, one, or many General_removal_volume
ae90 Brep_model defines the element for zero, one, or many Brep_model_element (see 6.5)
ae91 Brep_model defines the shape_definition for zero Brep_shape_aspect_representation
ae92 Brep_model defines the shape_definition for one Brep_shape_aspect_representation (see 6.5)
ae93 Brep_model defines the shape_definition for many Brep_shape_aspect_representation

4.1.13 Brep_model_element

ae94 Brep_model_element (see 6.5, 6.7, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)
ae96 Brep_model_element has the element defined by exactly one Brep_model (see 6.5, 6.7, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)
ae97 Brep_model_element defines the Brep_shape for exactly one Shape_aspect (see 6.5)

4.1.14 Brep_shape_aspect_representation

ae98 Brep_shape_aspect_representation (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)
ae100 Brep_shape_aspect_representation has the shape_definition defined by exactly one Brep_model (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)
ae101 Brep_shape_aspect_representation defines the Brep_form for exactly one Shape_aspect (see 6.4)

4.1.15 Brep_shape_representation

ae102 Brep_shape_representation (see 6.12)
ae104 Brep_shape_representation has the shape_definition defined by exactly one Brep_model (see 6.12)
ae105 Brep_shape_representation defines the Brep_form for exactly one Shape
ae106 Brep_shape_representation defines the Brep_form for zero Explicit_base_shape_representation
ae107 Brep_shape_representation defines the Brep_form for one Explicit_base_shape_representation
ae108 Brep_shape_representation defines the Brep_form for many Explicit_base_shape_representation

4.1.16 Catalogue_knurl

ae109 Catalogue_knurl (see 6.16)
ae111 Catalogue_knurl has documentation defined by exactly one Specification (see 6.16)

4.1.17 Catalogue_marking

ae112 Catalogue_marking (see 6.15)

ae114 Catalogue_marking has documentation defined by exactly one Specification (see 6.15)

4.1.18 Catalogue_thread

ae115 Catalogue_thread (see 6.14)

ae117 Catalogue_thread has documentation defined by exactly one Specification (see 6.14)

4.1.19 Chamfer

ae118 Chamfer (see 6.27)

ae122 Chamfer has the chamfer_face shape identified by exactly one Face_shape_element (see 6.27)

ae123 Chamfer has the first_face_offset defined by exactly one First_offset (see 6.27)

ae124 Chamfer has the second_face_offset defined by exactly one Second_chamfer_offset (see 6.27)

4.1.20 Chamfer_angle

ae125 Chamfer_angle (see 6.27)

ae127 Chamfer_angle has the angle_amount defined by exactly one Numeric_parameter (see 6.27)

4.1.21 Circular_boss

ae128 Circular_boss (see 6.5, 6.12)

ae131 Circular_boss has the circular_profile defined by exactly one Circular_closed_profile (see 6.5, 6.12)

ae132 Circular_boss has the change_in_diameter defined by zero Angle_taper (see 6.5, 6.12)

ae133 Circular_boss has the change_in_diameter defined by one Angle_taper (see 6.5)

ae134 Circular_boss has the change_in_diameter defined by zero Diameter_taper

ae135 Circular_boss has the change_in_diameter defined by one Diameter_taper (see 6.5)

4.1.22 Circular_closed_profile

ae136 Circular_closed_profile (see 6.2, 6.3, 6.4, 6.5, 6.12, 6.14, 6.17, 6.18, 6.19, 6.20, 6.22, 6.23, 6.24, 6.25)

ae138 Circular_closed_profile has the diameter defined by exactly one Numeric_parameter (see 6.2, 6.3, 6.4, 6.5, 6.12, 6.14, 6.17, 6.18, 6.19, 6.20, 6.22, 6.23, 6.24, 6.25)

ae139 Circular_closed_profile defines the circular_profile for zero Circular_boss

ae140 Circular_closed_profile defines the circular_profile for one Circular_boss (see 6.5)

ae141 Circular_closed_profile defines the circular_profile for many Circular_boss

ae142 Circular_closed_profile defines the diameter for zero Round_hole

ae143 Circular_closed_profile defines the diameter for one Round_hole (see 6.2)

ae144 Circular_closed_profile defines the diameter for many Round_hole

4.1.23 Circular_offset_pattern

ae145 Circular_offset_pattern (see 6.17)

ae148 Circular_offset_pattern has the angular_offset defined by exactly one Numeric_parameter (see 6.17)

ae149 Circular_offset_pattern has the index_number defined by exactly one Numeric_parameter (see 6.17)

ae150 Circular_offset_pattern defines the relocated_base_feature for one Circular_pattern

ae151 Circular_offset_pattern defines the relocated_base_feature for many Circular_pattern

4.1.24 Circular_omit_pattern

ae152 Circular_omit_pattern (see 6.17)

ae154 Circular_omit_pattern has the omit_index defined by exactly one Numeric_parameter (see 6.17)

ae155 Circular_omit_pattern defines the missing_base_feature for one Circular_pattern

ae156 Circular_omit_pattern defines the missing_base_feature for many Circular_pattern

4.1.25 Circular_path

ae157 Circular_path (excluded, is an abstract supertype)

ae158 Circular_path as Complete_circular_path (excluded, is an abstract supertype)

ae159 Circular_path as Partial_circular_path (excluded, is an abstract supertype)

ae161 Circular_path has the radius defined by exactly one Numeric_parameter (see 6.21, 6.22)

4.1.26 Circular_pattern

ae162 Circular_pattern (see 6.17)

ae169 Circular_pattern has the relocated_base_feature defined by zero Circular_offset_pattern (see 6.17)

ae170 Circular_pattern has the relocated_base_feature defined by one Circular_offset_pattern (see 6.17)

ae171 Circular_pattern has the relocated_base_feature defined by many Circular_offset_pattern (see 6.17)

ae172 Circular_pattern has the missing_base_feature defined by zero Circular_omit_pattern (see 6.17)

ae173 Circular_pattern has the missing_base_feature defined by one Circular_omit_pattern (see 6.17)

ae174 Circular_pattern has the missing_base_feature defined by many Circular_omit_pattern (see 6.17)

ae175 Circular_pattern has the angular_spacing defined by exactly one Numeric_parameter (see 6.17)

ae176 Circular_pattern has the base_feature_diameter defined by exactly one Numeric_parameter (see 6.17)

ae177 Circular_pattern has the base_feature_rotation defined by exactly one Numeric_parameter (see 6.17)

ae178 Circular_pattern has the number_of_features defined by exactly one Numeric_parameter (see 6.17)

4.1.27 Circular_runout_tolerance

ae179 Circular_runout_tolerance (see 6.24)

ae181 Circular_runout_tolerance with runout_angle (see 6.24)

ae182 Circular_runout_tolerance has the geometric_reference defined by one Datum (see 6.24)

ae183 Circular_runout_tolerance has the geometric_reference defined by two Datum

4.1.28 Circularity_tolerance

ae184 Circularity_tolerance (see 6.23, 6.24)

4.1.29 Closed_profile

ae185 Closed_profile (excluded, is an abstract supertype)

ae186 Closed_profile as Circular_closed_profile (excluded, is an abstract supertype)

ae187 Closed_profile as General_closed_profile (excluded, is an abstract supertype)

ae188 Closed_profile as Ngon_profile (excluded, is an abstract supertype)

ae189 Closed_profile as Rectangular_closed_profile (excluded, is an abstract supertype)

ae190 Closed_profile defines the enclosed_boundary for zero General_boss

ae191 Closed_profile defines the enclosed_boundary for one General_boss (see 6.5)

ae192 Closed_profile defines the enclosed_boundary for many General_boss

4.1.30 Complete_circular_path

ae193 Complete_circular_path (see 6.21)

4.1.31 Compound_datum

ae194 Compound_datum (see 6.26)

ae196 Compound_datum has the element defined by two Datum_feature (see 6.26)

ae197 Compound_datum has the element defined by more Datum_feature

4.1.32 Compound_feature

ae198 Compound_feature (see 6.4)

ae200 Compound_feature with feature_description (see 6.4)

ae201 Compound_feature with feature_name (see 6.4)

ae202 Compound_feature has the element defined by two Compound_feature_element (see 6.4)

ae203 Compound_feature has the element defined by more Compound_feature_element (see 6.4)

4.1.33 Compound_feature_element

ae204 Compound_feature_element (see 6.4)

ae206 Compound_feature_element may have the element defined by exactly one Machining_feature (see 6.4)

ae207 Compound_feature_element may have the element defined by exactly one Transition_feature

ae208 Compound_feature_element defines the successor for zero Compound_feature_relationship

ae209 Compound_feature_element defines the successor for one Compound_feature_relationship (see 6.4)

ae210 Compound_feature_element defines the successor for many Compound_feature_relationship (see 6.4)

ae211 Compound_feature_element defines the element for zero Compound_feature

ae212 Compound_feature_element defines the element for one Compound_feature (see 6.4)

ae213 Compound_feature_element defines the element for many Compound_feature

ae214 Compound_feature_element defines the predecessor for zero Compound_feature_relationship

ae215 Compound_feature_element defines the predecessor for one Compound_feature_relationship (see 6.4)

ae216 Compound_feature_element defines the predecessor for many Compound_feature_relationship

4.1.34 Compound_feature_relationship

ae217 Compound_feature_relationship (see 6.4)

ae220 Compound_feature_relationship has the successor defined by exactly one Compound_feature_element (see 6.4)

ae221 Compound_feature_relationship has the predecessor defined by exactly one Compound_feature_element (see 6.4)

4.1.35 Concentricity_tolerance

ae222 Concentricity_tolerance (see 6.24)

ae224 Concentricity_tolerance with value_qualifier (see 6.24)

ae225 Concentricity_tolerance has the geometric_reference defined by exactly one Datum (see 6.24)

4.1.36 Conical_hole_bottom

ae226 Conical_hole_bottom (see 6.4)

ae229 Conical_hole_bottom has the tip_angle defined by exactly one Numeric_parameter (see 6.4)

ae230 Conical_hole_bottom has the tip_radius defined by zero or one Numeric_parameter (see 6.4)

4.1.37 Constant_radius_edge_round

ae231 Constant_radius_edge_round (see 6.22, 6.25, 6.27)

ae235 Constant_radius_edge_round has the first_face_offset defined by exactly one Numeric_parameter (see 6.22, 6.25, 6.27)

ae236 Constant_radius_edge_round has the second_face_offset defined by exactly one Numeric_parameter (see 6.22, 6.25, 6.27)

ae237 Constant_radius_edge_round has the radius defined by exactly one Numeric_parameter (see 6.22, 6.25, 6.27)

4.1.38 Constant_radius_fillet

ae238 Constant_radius_fillet (see 6.27)

ae242 Constant_radius_fillet has the first_face_offset defined by exactly one Numeric_parameter (see 6.27)

ae243 Constant_radius_fillet has the second_face_offset defined by exactly one Numeric_parameter (see 6.27)

ae244 Constant_radius_fillet has the radius defined by exactly one Numeric_parameter (see 6.27)

4.1.39 Counterbore_hole

ae245 Counterbore_hole (see 6.4)

ae248 Counterbore_hole has the smaller_hole defined by exactly one Round_hole (see 6.4)

ae249 Counterbore_hole has the larger_hole defined by exactly one Round_hole (see 6.4)

4.1.40 Countersunk_hole

ae250 Countersunk_hole (see 6.4)

ae253 Countersunk_hole has the constant_diameter_hole defined by exactly one Round_hole (see 6.4)

ae254 Countersunk_hole has the tapered_hole defined by exactly one Round_hole (see 6.4)

4.1.41 Curved_dimension_tolerance

ae255 Curved_dimension_tolerance (see 6.22)

4.1.42 Customer_order

ae256 Customer_order (see 6.2, 6.3)

ae258 Customer_order with delivery_date (see 6.2, 6.3)

ae260 Customer_order with material_disposition (see 6.2, 6.3)

ae261 Customer_order with order_number (see 6.2, 6.3)

ae262 Customer_order with order_status (see 6.2, 6.3)

ae264 Customer_order with special_instructions (see 6.2, 6.3)

ae265 Customer_order has the quantity_ordered defined by one Ordered_part (see 6.2)

ae266 Customer_order has the quantity_ordered defined by many Ordered_part (see 6.3)

ae267 Customer_order has the customer defined by exactly one Person_in_organization (see 6.2, 6.3)

ae268 Customer_order has the initiated_order defined by one Project_order (see 6.2)

ae269 Customer_order has the initiated_order defined by many Project_order (see 6.3)

4.1.43 Cutting_tool_requisition

ae270 Cutting_tool_requisition (see 6.1, 6.2, 6.3)

4.1.44 Cylindrical_base_shape

ae271 Cylindrical_base_shape (see 6.1, 6.2, 6.3, 6.6, 6.11, 6.16, 6.17, 6.24, 6.28)

ae273 Cylindrical_base_shape has the diameter defined by exactly one Numeric_parameter (see 6.1, 6.2, 6.3, 6.6, 6.11, 6.14, 6.16, 6.17, 6.24, 6.28)

4.1.45 Cylindricity_tolerance

ae274 Cylindricity_tolerance (see 6.23, 6.24, 6.28)

4.1.46 Datum

ae275 Datum (excluded, is an abstract supertype)
 ae276 Datum as Datum_feature (excluded, is an abstract supertype)
 ae277 Datum as Compound_datum (excluded, is an abstract supertype)
 ae278 Datum with name (see 6.23, 6.24, 6.26)
 ae279 Datum with precedence (see 6.23, 6.24, 6.26)
 ae283 Datum defines the geometric_reference for zero Circular_runout_tolerance
 ae284 Datum defines the geometric_reference for one Circular_runout_tolerance
 ae285 Datum defines the geometric_reference for many Circular_runout_tolerance
 ae286 Datum defines the geometric_reference for zero Perpendicularity_tolerance
 ae287 Datum defines the geometric_reference for one Perpendicularity_tolerance
 ae288 Datum defines the geometric_reference for many Perpendicularity_tolerance
 ae289 Datum is the geometric_reference for zero Concentricity_tolerance
 ae290 Datum is the geometric_reference for one Concentricity_tolerance
 ae291 Datum is the geometric_reference for many Concentricity_tolerance
 ae292 Datum defines the geometric_reference for zero Surface_profile_tolerance
 ae293 Datum defines the geometric_reference for one Surface_profile_tolerance
 ae294 Datum defines the geometric_reference for many Surface_profile_tolerance
 ae295 Datum defines the geometric_reference for zero Symmetry_tolerance
 ae296 Datum defines the geometric_reference for one Symmetry_tolerance
 ae297 Datum defines the geometric_reference for many Symmetry_tolerance
 ae298 Datum defines the geometric_reference for zero Position_tolerance
 ae299 Datum defines the geometric_reference for one Position_tolerance
 ae300 Datum defines the geometric_reference for many Position_tolerance
 ae301 Datum defines the geometric_reference for zero Parallelism_tolerance
 ae302 Datum defines the geometric_reference for one Parallelism_tolerance
 ae303 Datum defines the geometric_reference for many Parallelism_tolerance
 ae304 Datum defines the geometric_reference for zero Linear_profile_tolerance
 ae305 Datum defines the geometric_reference for one Linear_profile_tolerance
 ae306 Datum defines the geometric_reference for many Linear_profile_tolerance
 ae307 Datum defines the geometric_reference for zero Total_runout_tolerance
 ae308 Datum defines the geometric_reference for one Total_runout_tolerance
 ae309 Datum defines the geometric_reference for many Total_runout_tolerance
 ae310 Datum is the geometric_reference for zero Angularity_tolerance
 ae311 Datum is the geometric_reference for one Angularity_tolerance
 ae312 Datum is the geometric_reference for many Angularity_tolerance

4.1.47 Datum_feature

ae313 Datum_feature (see 6.23, 6.24, 6.26)
 ae282 Datum_feature has the datum_representation defined by exactly one Datum_target_set (see 6.23, 6.24, 6.26)
 ae316 Datum_feature has the datum_representation defined by exactly one Shape_element (see 6.26)

ae1980 Datum_feature has the modifier defined by zero Material_condition_modifier (see 6.23, 6.24, 6.26)
ae317 Datum_feature has the modifier defined by exactly Material_condition_modifier (see 6.26)
ae318 Datum_feature defines the element for zero Compound_datum
ae319 Datum_feature defines the element for one Compound_datum
ae320 Datum_feature defines the element for many Compound_datum

4.1.48 Datum_target

ae321 Datum_target (excluded, is an abstract supertype)
ae322 Datum_target as Placed_target (excluded, is an abstract supertype)
ae323 Datum_target as Target_area (excluded, is an abstract supertype)
ae324 Datum_target with identifier (see 6.23, 6.24, 6.26)
ae325 Datum_target defines the target_shape for zero Datum_target_set
ae326 Datum_target defines the target_shape for one Datum_target_set
ae327 Datum_target defines the target_shape for many Datum_target_set

4.1.49 Datum_target_set

ae328 Datum_target_set (see 6.23, 6.24, 6.26)
ae329 Datum_target_set with rule_description (see 6.23, 6.24, 6.26)
ae331 Datum_target_set has the target_shape defined by one Datum_target (see 6.23, 6.24, 6.26)
ae332 Datum_target_set has the target_shape defined by many Datum_target (see 6.26)
ae333 Datum_target_set defines the datum_representation for zero Datum_feature
ae334 Datum_target_set defines the datum_representation for one Datum_feature
ae335 Datum_target_set defines the datum_representation for many Datum_feature

4.1.50 Dedicated_fixture_requisition

ae336 Dedicated_fixture_requisition (see 6.1, 6.2, 6.3)

4.1.51 Defined_marking

ae337 Defined_marking (see 6.15)
ae342 Defined_marking has the special_instructions defined by exactly one Descriptive_parameter (see 6.15)
ae343 Defined_marking has the font_name defined by exactly one Descriptive_parameter (see 6.15)
ae344 Defined_marking has the character_height defined by exactly one Numeric_parameter (see 6.15)
ae345 Defined_marking has the character_spacing defined by exactly one Numeric_parameter (see 6.15)

4.1.52 Defined_thread

ae346 Defined_thread (see 6.14)
ae354 Defined_thread has the fit_class defined by zero Descriptive_parameter
ae355 Defined_thread has the fit_class defined by one Descriptive_parameter (see 6.14)
ae356 Defined_thread has the form defined by exactly one Descriptive_parameter (see 6.14)

ae357 Defined_thread has the thread_hand defined by exactly one Descriptive_parameter (see 6.14)
 ae358 Defined_thread has the major_diameter defined by exactly one Numeric_parameter (see 6.14)
 ae359 Defined_thread has the minor_diameter defined by zero Numeric_parameter
 ae360 Defined_thread has the minor_diameter defined by one Numeric_parameter (see 6.14)
 ae361 Defined_thread has the number_of_threads defined by exactly one Numeric_parameter (see 6.14)
 ae362 Defined_thread has the pitch_diameter defined by zero Numeric_parameter
 ae363 Defined_thread has the pitch_diameter defined by one Numeric_parameter (see 6.14)

4.1.53 Descriptive_parameter

ae364 Descriptive_parameter (see 6.14, 6.15, 6.16)
 ae365 Descriptive_parameter with descriptive_string (see 6.14, 6.15, 6.16)
 ae366 Descriptive_parameter defines text for zero Marking
 ae367 Descriptive_parameter defines text for one Marking
 ae368 Descriptive_parameter defines text for many Marking
 ae369 Descriptive_parameter defines the helix_hand for zero Diagonal_knurl
 ae370 Descriptive_parameter defines the helix_hand for one Diagonal_knurl
 ae371 Descriptive_parameter defines the helix_hand for many Diagonal_knurl
 ae372 Descriptive_parameter defines the form for zero Defined_thread
 ae373 Descriptive_parameter defines the form for one Defined_thread
 ae374 Descriptive_parameter defines the form for many Defined_thread
 ae375 Descriptive_parameter defines the fit_class for zero Defined_thread
 ae376 Descriptive_parameter defines the fit_class for one Defined_thread
 ae377 Descriptive_parameter defines the fit_class for many Defined_thread
 ae378 Descriptive_parameter defines special_instructions for zero Defined_marking
 ae379 Descriptive_parameter defines special_instructions for one Defined_marking
 ae380 Descriptive_parameter defines special_instructions for many Defined_marking
 ae381 Descriptive_parameter defines font_name for zero Defined_marking
 ae382 Descriptive_parameter defines font_name for one Defined_marking
 ae383 Descriptive_parameter defines font_name for many Defined_marking
 ae384 Descriptive_parameter defines the thread_hand for zero Defined_thread
 ae385 Descriptive_parameter defines the thread_hand for one Defined_thread
 ae386 Descriptive_parameter defines the thread_hand for many Defined_thread
 ae387 Descriptive_parameter defines the qualifier for zero Thread
 ae388 Descriptive_parameter defines the qualifier for one Thread
 ae389 Descriptive_parameter defines the qualifier for many Thread

4.1.54 Design_exception_notice

ae390 Design_exception_notice (see 6.1, 6.2, 6.3)
 ae392 Design_exception_notice with issuing_date (see 6.1, 6.2, 6.3)
 ae393 Design_exception_notice with notice_description (see 6.1, 6.2, 6.3)
 ae394 Design_exception_notice with notice_number (see 6.1, 6.2, 6.3)
 ae396 Design_exception_notice with technical_recommendation (see 6.1, 6.2, 6.3)
 ae397 Design_exception_notice has the result defined by zero Engineering_change_proposal (see 6.1)

ae398 Design_exception_notice has the result defined by one Engineering_change_proposal (see 6.2)
ae399 Design_exception_notice has the result defined by many Engineering_change_proposal (see 6.3)
ae400 Design_exception_notice has the discrepant_part defined by one Part objects (see 6.1, 6.2)
ae401 Design_exception_notice has the discrepant_part defined by many Part objects (see 6.3)

4.1.55 Diagonal_knurl

ae402 Diagonal_knurl (see 6.16)
ae405 Diagonal_knurl has the helix_hand defined by exactly one Descriptive_parameter (see 6.16)
ae406 Diagonal_knurl has the helix_angle defined by exactly one Numeric_parameter (see 6.16)

4.1.56 Diameter_dimension_tolerance

ae407 Diameter_dimension_tolerance (see 6.22)

4.1.57 Diameter_taper

ae408 Diameter_taper (see 6.4, 6.5, 6.6)
ae410 Diameter_taper has the final_diameter defined by exactly one Numeric_parameter (see 6.4, 6.5, 6.6)
ae411 Diameter_taper defines the change_in_diameter for zero Round_hole
ae412 Diameter_taper defines the change_in_diameter for one Round_hole (see 6.4)
ae413 Diameter_taper defines the change_in_diameter for many Round_hole (see 6.4)
ae414 Diameter_taper defines the change_in_diameter for zero Circular_boss
ae415 Diameter_taper defines the change_in_diameter for one Circular_boss (see 6.5)
ae416 Diameter_taper defines the change_in_diameter for many Circular_boss
ae417 Diameter_taper defines the reduced_size for zero Outer_diameter
ae418 Diameter_taper defines the reduced_size for one Outer_diameter
ae419 Diameter_taper defines the reduced_size for many Outer_diameter

4.1.58 Diamond_knurl

ae420 Diamond_knurl (see 6.16)
ae422 Diamond_knurl has the helix_angle defined by exactly one Numeric_parameter (see 6.16)

4.1.59 Digital_technical_data_package_work_order

ae423 Digital_technical_data_package_work_order (see 6.2, 6.3)
ae424 Digital_technical_data_package_work_order with order_id (see 6.2, 6.3)
ae425 Digital_technical_data_package_work_order defines the technical_data_package_status for exactly one Project_order (see 6.2, 6.3)

4.1.60 Dimensional_tolerance

- ae426 Dimensional_tolerance (excluded, is an abstract supertype)
- ae427 Dimensional_tolerance as Location_tolerance (excluded, is an abstract supertype)
- ae428 Dimensional_tolerance as Size_tolerance (excluded, is an abstract supertype)
- ae429 Dimensional_tolerance with dimension_description (see 6.22, 6.25)
- ae430 Dimensional_tolerance with dimension_value (see 6.22, 6.25)
- ae432 Dimensional_tolerance with significant_digits (see 6.22, 6.25)
- ae433 Dimensional_tolerance with unit_of_measure (see 6.22, 6.25)
- ae434 Dimensional_tolerance has the limit defined by zero Tolerance_value (see 6.22, 6.25)
- ae435 Dimensional_tolerance has the limit defined by one Tolerance_value (see 6.22, 6.25)

4.1.61 Direction_element

- ae436 Direction_element (see 6.5, 6.10, 6.11, 6.12, 6.13, 6.15, 6.18, 6.22, 6.23, 6.24, 6.25, 6.26, 6.28)
- ae437 Direction_element defines floor_normal for zero Planar_pocket_bottom_condition
- ae438 Direction_element defines floor_normal for one Planar_pocket_bottom_condition
- ae439 Direction_element defines floor_normal for many Planar_pocket_bottom_condition
- ae440 Direction_element defines the row_layout direction for zero Rectangular_pattern
- ae441 Direction_element defines the row_layout direction for one Rectangular_pattern
- ae442 Direction_element defines the row_layout direction for many Rectangular_pattern
- ae443 Direction_element defines the material_side for zero Revolved_feature
- ae444 Direction_element defines the material_side for one Revolved_feature
- ae445 Direction_element defines the material_side for many Revolved_feature
- ae446 Direction_element defines the removal_direction for zero Planar_face
- ae447 Direction_element defines the removal_direction for one Planar_face
- ae448 Direction_element defines the removal_direction for many Planar_face
- ae449 Direction_element defines the column_layout direction for zero Rectangular_pattern
- ae450 Direction_element defines the column_layout direction for one Rectangular_pattern
- ae451 Direction_element defines the column_layout direction for many Rectangular_pattern
- ae452 Direction_element defines the offset_direction for zero Rectangular_offset_pattern
- ae453 Direction_element defines the offset_direction for one Rectangular_offset_pattern
- ae454 Direction_element defines the offset_direction for many Rectangular_offset_pattern
- ae455 Direction_element defines the top_normal direction for zero Planar_top_condition
- ae456 Direction_element defines the top_normal direction for one Planar_top_condition (see 6.5)
- ae457 Direction_element defines the top_normal direction for many Planar_top_condition

4.1.62 Distance_along_curve_tolerance

- ae458 Distance_along_curve_tolerance (see 6.25)
- ae460 Distance_along_curve_tolerance with with_curve_direction (see 6.25)
- ae461 Distance_along_curve_tolerance has a path defined by exactly one Shape_aspect (see 6.25)

4.1.63 Edge_round

ae462 Edge_round (see 6.27)

ae463 Edge_round as Constant_radius_edge_round (excluded, is an abstract supertype)

ae467 Edge_round has the edge_round_face shape defined by exactly one Face_shape_element (see 6.22, 6.25, 6.27)

ae468 Edge_round has the first_face_shape defined by exactly one Face_shape_element (see 6.22, 6.25, 6.27)

ae469 Edge_round has the second_face_shape defined by exactly one Face_shape_element (see 6.22, 6.25, 6.27)

4.1.64 Engineering_change_order

ae470 Engineering_change_order (see 6.2, 6.3)

ae471 Engineering_change_order with change_order_number (see 6.2, 6.3)

ae474 Engineering_change_order has the new_version defined by one Part (see 6.2)

ae475 Engineering_change_order has the new_version defined by many Part (see 6.3)

ae476 Engineering_change_order has the incorporated_proposal defined by one Engineering_change_proposal (see 6.2)

ae477 Engineering_change_order has the incorporated_proposal defined by many Engineering_change_proposal (see 6.2, 6.3)

4.1.65 Engineering_change_proposal

ae478 Engineering_change_proposal (see 6.2, 6.3)

ae479 Engineering_change_proposal with change_proposal_number (see 6.2, 6.3)

ae480 Engineering_change_proposal defines the incorporated_proposal for zero Engineering_change_order

ae481 Engineering_change_proposal defines the incorporated_proposal for one Engineering_change_order (see 6.2, 6.3)

ae482 Engineering_change_proposal defines the incorporated_proposal for many Engineering_change_order

ae483 Engineering_change_proposal defines the result for exactly one Design_exception_notice (see 6.2, 6.3)

4.1.66 Explicit_base_shape_representation

ae484 Explicit_base_shape_representation (see 6.12)

ae486 Explicit_base_shape_representation has the Brep_form defined by exactly one Brep_shape_representation (see 6.12)

4.1.67 Externally_defined_tolerance_value

ae487 Externally_defined_tolerance_value (see 6.22)

ae489 Externally_defined_tolerance_value with tolerance_value (see 6.22)

ae490 Externally_defined_tolerance_value has the documentation defined by exactly one Specification (see 6.22)

ae491 Externally_defined_tolerance_value defines the define_value for zero Tolerance_value

ae492 Externally_defined_tolerance_value defines the define_value for one Tolerance_value

ae493 Externally_defined_tolerance_value defines the define_value for many Tolerance_value

4.1.68 Face_shape_element

ae494 Face_shape_element (see 6.5, 6.12, 6.13, 6.22, 6.25, 6.27)

ae495 Face_shape_element defines the edge_round_face shape for zero Edge_round

ae496 Face_shape_element defines the edge_round_face shape for one Edge_round

ae497 Face_shape_element defines the edge_round_face shape for many Edge_round

ae498 Face_shape_element defines the first_face_shape for zero Edge_round

ae499 Face_shape_element defines the first_face_shape for one Edge_round

ae500 Face_shape_element defines the first_face_shape for many Edge_round

ae501 Face_shape_element is the chamfer_face shape for zero Chamfer

ae502 Face_shape_element is the chamfer_face shape for one Chamfer

ae503 Face_shape_element is the chamfer_face shape for many Chamfer

ae504 Face_shape_element defines the second_face_shape for zero Edge_round

ae505 Face_shape_element defines the second_face_shape for one Edge_round

ae506 Face_shape_element defines the second_face_shape for many Edge_round

ae507 Face_shape_element defines the first_face_shape for zero Fillet

ae508 Face_shape_element defines the first_face_shape for one Fillet

ae509 Face_shape_element defines the first_face_shape for many Fillet

ae510 Face_shape_element defines the second_face_shape for zero Fillet

ae511 Face_shape_element defines the second_face_shape for one Fillet

ae512 Face_shape_element defines the second_face_shape for many Fillet

ae513 Face_shape_element defines the face_shape for zero First_offset

ae514 Face_shape_element defines the face_shape for one First_offset

ae515 Face_shape_element defines the face_shape for many First_offset

ae516 Face_shape_element defines the floor for zero General_pocket_bottom_condition

ae517 Face_shape_element defines the floor for one General_pocket_bottom_condition

ae518 Face_shape_element defines the floor for many General_pocket_bottom_condition

ae519 Face_shape_element defines the fillet_face for zero Fillet

ae520 Face_shape_element defines the fillet_face for one Fillet

ae521 Face_shape_element defines the fillet_face for many Fillet

ae522 Face_shape_element defines the top_face for zero General_top_condition

ae523 Face_shape_element defines the top_face for one General_top_condition (see 6.5)

ae524 Face_shape_element defines the top_face for many General_top_condition

ae525 Face_shape_element defines the second_face for zero Second_chamfer_offset

ae526 Face_shape_element defines the second_face for one Second_chamfer_offset

ae527 Face_shape_element defines the second_face for many Second_chamfer_offset

4.1.69 Fillet

ae528 Fillet (see 6.27)

ae529 Fillet as Constant_radius_fillet (excluded, is a supertype)

ae533 Fillet has the fillet_face defined by exactly one Face_shape_element (see 6.27)

ae534 Fillet has the first_face_shape defined by exactly one Face_shape_element (see 6.27)

ae535 Fillet has the second_face_shape defined by exactly one Face_shape_element (see 6.27)

4.1.70 First_offset

ae536 First_offset (see 6.27)

ae539 First_offset has the face_shape defined by exactly one Face_shape_element (see 6.27)

ae540 First_offset has the offset_amount defined by exactly one Numeric_parameter (see 6.27)

ae541 First_offset defines the first_face_offset for zero Chamfer

ae542 First_offset defines the first_face_offset for one Chamfer

ae543 First_offset defines the first_face_offset for many Chamfer

4.1.71 Flat_hole_bottom

ae544 Flat_hole_bottom (see 6.4, 6.12, 6.14, 6.24)

4.1.72 Flat_slot_end_type

ae545 Flat_slot_end_type (see 6.9, 6.21, 6.22)

ae548 Flat_slot_end_type has the first_radius defined by exactly one Numeric_parameter (see 6.9, 6.21, 6.22)

ae549 Flat_slot_end_type has the second_radius defined by exactly one Numeric_parameter (see 6.9, 6.21, 6.22)

4.1.73 Flat_with_radius_hole_bottom

ae550 Flat_with_radius_hole_bottom (see 6.4)

ae552 Flat_with_radius_hole_bottom has the corner_radius defined by exactly one Numeric_parameter (see 6.4)

4.1.74 Flatness_tolerance

ae553 Flatness_tolerance (see 6.24)

ae554 Flatness_tolerance with segment_size (see 6.24)

4.1.75 General_boss

ae555 General_boss (see 6.5, 6.12, 6.15)

ae558 General_boss has enclosed_boundary defined by exactly one Closed_profile (see 6.5, 6.12, 6.15)

ae559 General_boss has the change_in_boundary defined by zero Angle_taper (see 6.5, 6.12, 6.15)

ae560 General_boss has the change_in_boundary defined by one Angle_taper (see 6.5)

4.1.76 General_closed_profile

ae561 General_closed_profile (see 6.5, 6.12, 6.13, 6.20)

ae563 General_closed_profile has the closed_profile_shape defined by exactly one Path_element (see 6.5, 6.12, 6.13, 6.20)

4.1.77 General_open_profile

ae564 General_open_profile (see 6.7, 6.11)

ae566 General_open_profile has enclosed_boundary defined by exactly one Path_element

ae567 General_open_profile defines the outer_edge_shape for zero General_revolution

ae568 General_open_profile defines the outer_edge_shape for one General_revolution

ae569 General_open_profile defines the outer_edge_shape for many General_revolution

4.1.78 General_outside_profile

ae570 General_outside_profile (see 6.12, 6.18, 6.19)

ae572 General_outside_profile has boundary defined by exactly one Profile (see 6.12, 6.18, 6.19)

4.1.79 General_path

ae573 General_path (see 6.21)

ae575 General_path has the sweep_path defined by exactly one Path_element (see 6.21)

4.1.80 General_pattern

ae576 General_pattern (see 6.19)

ae578 General_pattern has the feature_placement defined by one Orientation (see 6.19)

ae579 General_pattern has the feature_placement defined by many Orientation (see 6.19)

4.1.81 General_pocket

ae580 General_pocket (see 6.13, 6.20)

ae582 General_pocket has the boundary defined by exactly one Profile (see 6.13, 6.20)

4.1.82 General_pocket_bottom_condition

ae583 General_pocket_bottom_condition (see 6.13)

ae586 General_pocket_bottom_condition has the floor defined by exactly one Face_shape_element (see 6.13)

ae587 General_pocket_bottom_condition has the floor_radius defined by exactly one Numeric_parameter (see 6.13)

4.1.83 General_removal_volme

ae588 General_removal_volume (see 6.10, 6.23)

ae590 General_removal_volume has the removal_volume defined by exactly one Brep_model (see 6.10, 6.23)

4.1.84 General_revolution

ae591 General_revolution (see 6.11)

ae593 General_revolution has the outer_edge_shape defined by exactly one General_open_profile (see 6.11)

4.1.85 General_top_condition

ae594 General_top_condition (see 6.5, 6.12)

ae596 General_top_condition has the top_face defined by exactly one Face_shape_element (see 6.5, 6.12)

4.1.86 Geometric_tolerance

ae597 Geometric_tolerance (excluded, is an abstract supertype)

ae598 Geometric_tolerance as Angularity_tolerance (excluded, is an abstract supertype)

ae599 Geometric_tolerance as Circular_runout_tolerance (excluded, is an abstract supertype)

ae600 Geometric_tolerance as Circularity_tolerance (excluded, is an abstract supertype)

ae601 Geometric_tolerance as Concentricity_tolerance (excluded, is an abstract supertype)

ae602 Geometric_tolerance as Cylindricity_tolerance (excluded, is an abstract supertype)

ae603 Geometric_tolerance as Flatness_tolerance (excluded, is an abstract supertype)

ae604 Geometric_tolerance as Linear_profile_tolerance (excluded, is an abstract supertype)

ae605 Geometric_tolerance as Parallelism_tolerance (excluded, is an abstract supertype)

ae606 Geometric_tolerance as Perpendicularity_tolerance (excluded, is an abstract supertype)

ae607 Geometric_tolerance as Position_tolerance (excluded, is an abstract supertype)

ae608 Geometric_tolerance as Straightness_tolerance (excluded, is an abstract supertype)

ae609 Geometric_tolerance as Surface_profile_tolerance (excluded, is an abstract supertype)

ae610 Geometric_tolerance as Symmetry_tolerance (excluded, is an abstract supertype)

ae611 Geometric_tolerance as Total_runout_tolerance (excluded, is an abstract supertype)

ae613 Geometric_tolerance with geometric_tolerance_value

ae618 Geometric_tolerance has the modifier_control defined by zero Material_condition_modifier (see 6.23, 6.24, 6.28)

ae619 Geometric_tolerance has the modifier_control defined by one Material_condition_modifier (see 6.24)

ae620 Geometric_tolerance has the applied_shape defined by one Shape_aspect (see 6.23, 6.24, 6.28)

ae621 Geometric_tolerance has the applied_shape defined by many Shape_aspect (see 6.28)

ae622 Geometric_tolerance has the zone_definition defined by zero Tolerance_zone

ae623 Geometric_tolerance has the zone_definition defined by one Tolerance_zone

ae624 Geometric_tolerance defines the pattern_shape_tolerance for zero Geometric_tolerance_precedence_relationship

ae625 Geometric_tolerance defines the pattern_shape_tolerance for one Geometric_tolerance_precedence_

relationship

ae626 Geometric_tolerance defines the pattern_shape_tolerance for many Geometric_tolerance_precedence_relationship

ae627 Geometric_tolerance defines the base_shape_tolerance for zero Geometric_tolerance_precedence_relationship

ae628 Geometric_tolerance defines the base_shape_tolerance for one Geometric_tolerance_precedence_relationship

ae629 Geometric_tolerance defines the base_shape_tolerance for many Geometric_tolerance_precedence_relationship

4.1.87 Geometric_tolerance_precedence_relationship

ae630 Geometric_tolerance_precedence_relationship (see 6.23)

ae633 Geometric_tolerance_precedence_relationship has the base_shape_tolerance defined by exactly one Geometric_tolerance (see 6.23)

ae634 Geometric_tolerance_precedence_relationship has the pattern_shape_tolerance defined by exactly one Geometric_tolerance (see 6.23)

4.1.88 Groove

ae635 Groove (see 6.11, 6.28)

ae636 Groove with sweep (see 6.11, 6.28)

ae637 Groove has a sweep defined by exactly one Open_profile (see 6.11, 6.28)

4.1.89 Hardness

ae638 Hardness (see 6.2, 6.3)

ae639 Hardness with high_value (see 6.2, 6.3)

ae640 Hardness with low_value (see 6.2, 6.3)

ae641 Hardness with nominal (see 6.2, 6.3)

ae642 Hardness with scale (see 6.2, 6.3)

ae643 Hardness defines material_hardness for exactly one Material_property (see 6.2, 6.3)

4.1.90 Hole

ae644 Hole (excluded, is an abstract supertype)

ae645 Hole as Counterbore_hole (excluded, is an abstract supertype)

ae646 Hole as Countersunk_hole (excluded, is an abstract supertype)

ae647 Hole as Round_hole (excluded, is an abstract supertype)

4.1.91 Implicit_base_shape_representation

ae648 Implicit_base_shape_representation (excluded, is an abstract supertype)

ae649 Implicit_base_shape_representation as Block_base_shape (excluded, is an abstract supertype)

ae650 Implicit_base_shape_representation as Cylindrical_base_shape (excluded, is an abstract supertype)

ae651 Implicit_base_shape_representation as Ngon_base_shape (excluded, is an abstract supertype)

ae654 Implicit_base_shape_representation has the base_shape_length defined by exactly one Numeric_parameter (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae655 Implicit_base_shape_representation has placement defined by exactly one Orientation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.1.92 Indirect_stock_requisition

ae656 Indirect_stock_requisition (see 6.1, 6.2, 6.3)

4.1.93 Knurl

ae657 Knurl (excluded, is an abstract supertype)

ae658 Knurl as Catalogue_knurl (excluded, is an abstract supertype)

ae659 Knurl as Turned_knurl (excluded, is an abstract supertype)

ae662 Knurl has the partial_profile defined by zero Partial_area_definition (see 6.16)

ae663 Knurl has the partial_profile defined by one Partial_area_definition (see 6.16)

ae664 Knurl has the applied_shape defined by exactly one Shape_element (see 6.16)

4.1.94 Linear_path

ae665 Linear_path (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.14, 6.15, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae667 Linear_path has the distance defined by exactly one Numeric_parameter (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.14, 6.15, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae668 Linear_path defines the course_of_travel for zero Step

ae669 Linear_path defines the course_of_travel for one Step

ae670 Linear_path defines the course_of_travel for many Step

ae671 Linear_path defines the course_of_travel for zero Rounded_end

ae672 Linear_path defines the course_of_travel for one Rounded_end

ae673 Linear_path defines the course_of_travel for many Rounded_end

ae674 Linear_path defines the course_of_travel for zero Planar_face

ae675 Linear_path defines the course_of_travel for one Planar_face

ae676 Linear_path defines the course_of_travel for many Planar_face

ae677 Linear_path defines the boss_height for zero Boss

ae678 Linear_path defines the boss_height for one Boss (see 6.5)

ae679 Linear_path defines the boss_height for many Boss (see 6.5)

ae680 Linear_path defines the hole_depth for zero Round_hole

ae681 Linear_path defines the hole_depth for one Round_hole (see 6.4)

ae682 Linear_path defines the hole_depth for many Round_hole

ae683 Linear_path defines the pocket_depth for zero Pocket
ae684 Linear_path defines the pocket_depth for one Pocket
ae685 Linear_path defines the pocket_depth for many Pocket

4.1.95 Linear_profile

ae686 Linear_profile (see 6.10, 6.11, 6.22, 6.24, 6.25, 6.26, 6.28)
ae688 Linear_profile has the profile_length defined by exactly one Numeric_parameter (see 6.10, 6.11, 6.22, 6.24, 6.25, 6.26, 6.28)
ae689 Linear_profile defines the removal_boundary for zero Planar_face
ae690 Linear_profile defines the removal_boundary for one Planar_face
ae691 Linear_profile defines the removal_boundary for many Planar_face
ae692 Linear_profile defines the flat_edge_shape for zero Revolved_flat
ae693 Linear_profile defines the flat_edge_shape for one Revolved_flat
ae694 Linear_profile defines the flat_edge_shape for many Revolved_flat

4.1.96 Linear_profile_tolerance

ae695 Linear_profile_tolerance (see 6.23)
ae698 Linear_profile_tolerance has the geometric_reference defined by zero Datum
ae699 Linear_profile_tolerance has the geometric_reference defined by one Datum (see 6.23)
ae700 Linear_profile_tolerance has the geometric_reference defined by two Datum
ae701 Linear_profile_tolerance has the geometric_reference defined by three Datum
ae702 Linear_profile_tolerance has an affected_plane defined by exactly one Orientation (see 6.23)

4.1.97 Location_dimension_tolerance

ae703 Location_dimension_tolerance (see 6.25)
ae704 Location_dimension_tolerance with directed (see 6.25)
ae706 Location_dimension_tolerance has a plane_and_direction defined by zero Orientation (see 6.25)
ae707 Location_dimension_tolerance has a plane_and_direction defined by one Orientation (see 6.25)

4.1.98 Location_element

ae708 Location_element (see 6.5, 6.12, 6.13, 6.15, 6.23, 6.24)
ae709 Location_element defines the top_location for zero Planar_top_condition
ae710 Location_element defines the top_location for one Planar_top_condition (see 6.5)
ae711 Location_element defines the top_location for many Planar_top_condition (see 6.5)
ae712 Location_element defines the floor_location for zero Planar_pocket_bottom_condition
ae713 Location_element defines the floor_location for one Planar_pocket_bottom_condition
ae714 Location_element defines the floor_location for many Planar_pocket_bottom_condition

4.1.99 Location_tolerance

ae715 Location_tolerance (excluded, is an abstract supertype)
 ae716 Location_tolerance as Angular_dimension_tolerance (excluded, is an abstract supertype)
 ae717 Location_tolerance as Location_dimension_tolerance (excluded, is an abstract supertype)
 ae718 Location_tolerance as Distance_along_curve_tolerance (excluded, is an abstract supertype)
 ae721 Location_tolerance has the termination_shape defined by exactly one Shape_element (see 6.25)
 ae722 Location_tolerance has the origin_shape defined by exactly one Shape_element (see 6.25)

4.1.100 Machine_requisition

ae723 Machine_requisition (see 6.1, 6.2, 6.3)

4.1.101 Machining_feature

ae724 Machining_feature (excluded, is an abstract supertype)
 ae725 Machining_feature as Boss (excluded, is an abstract supertype)
 ae726 Machining_feature as General_outside_profile (excluded, is an abstract supertype)
 ae727 Machining_feature as General_removal_volume (excluded, is an abstract supertype)
 ae728 Machining_feature as Hole (excluded, is an abstract supertype)
 ae729 Machining_feature as Knurl (excluded, is an abstract supertype)
 ae730 Machining_feature as Outer_round (excluded, is an abstract supertype)
 ae731 Machining_feature as Revolved_feature (excluded, is an abstract supertype)
 ae732 Machining_feature as Rounded_end (excluded, is an abstract supertype)
 ae733 Machining_feature as Planar_face (excluded, is an abstract supertype)
 ae734 Machining_feature as Pocket (excluded, is an abstract supertype)
 ae735 Machining_feature as Protrusion (excluded, is an abstract supertype)
 ae736 Machining_feature as Slot (excluded, is an abstract supertype)
 ae737 Machining_feature as Step (excluded, is an abstract supertype)
 ae738 Machining_feature as Thread (excluded, is an abstract supertype)
 ae739 Machining_feature as Marking (excluded, is an abstract supertype)
 ae740 Machining_feature as Spherical_cap (excluded, is an abstract supertype)
 ae741 Machining_feature as Compound_feature (excluded, is an abstract supertype)
 ae743 Machining_feature with usage_name (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae744 Machining_feature has placement defined by exactly one Orientation (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae745 Machining_feature defines the element for zero Compound_feature_element
 ae746 Machining_feature defines the element for one Compound_feature_element (see 6.4)
 ae747 Machining_feature defines the element for many Compound_feature_element (see 6.4)
 ae748 Machining_feature defines the base_feature for zero Replicate_base
 ae749 Machining_feature defines the base_feature for one Replicate_base
 ae750 Machining_feature defines the base_feature for many Replicate_base

4.1.102 Manufacturing_feature

ae751 Manufacturing_feature (excluded, is an abstract supertype)

ae752 Manufacturing_feature as Machining_feature (excluded, is an abstract supertype)

ae753 Manufacturing_feature as Replicate_feature (excluded, is an abstract supertype)

ae754 Manufacturing_feature as Transition_feature (excluded, is an abstract supertype)

4.1.103 Marking

ae755 Marking (excluded, is an abstract supertype)

ae756 Marking as Defined_marking (excluded, is an abstract supertype)

ae757 Marking as Catalogue_marking (excluded, is an abstract supertype)

ae758 Marking with applied_to_shape (excluded, is an abstract supertype)

ae760 Marking has text defined by exactly one Descriptive_parameter (see 6.15)

ae761 Marking has an applied_to_shape defined by exactly one Shape_element (see 6.15)

4.1.104 Material

ae762 Material (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae764 Material with material_description (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae765 Material with material_id (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae767 Material with stock_size (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae768 Material has the material_characteristics defined by zero Material_property (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae769 Material has the material_characteristics defined by one Material_property (see 6.2)

ae770 Material has the material_characteristics defined by many Material_property (see 6.3)

ae771 Material has the material_specification defined by zero Specification (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae772 Material has the material_specification defined by one Specification (see 6.2)

ae773 Material has the material_specification defined by many Specification (see 6.3)

ae774 Material defines the material_definition for one Part (see 6.1, 6.2, 6.3)

ae775 Material defines the material_definition for many Part (see 6.3)

ae776 Material is the material_substitute for zero Alternate_material (see 6.1)

ae777 Material is the material_substitute for one Alternate_material (see 6.2)

ae778 Material is the material_substitute for many Alternate_material

4.1.105 Material_condition_modifier

ae779 Material_condition_modifier (see 6.24, 6.26)

ae780 Material_condition_modifier with material_type (see 6.24, 6.26)

ae781 Material_condition_modifier defines the modifier_control for zero Geometric_tolerance

ae782 Material_condition_modifier defines the modifier_control for one Geometric_tolerance

ae783 Material_condition_modifier defines the modifier_control for many Geometric_tolerance

ae784 Material_condition_modifier defines the modifier for zero Datum

ae785 Material_condition_modifier defines the modifier for one Datum

ae786 Material_condition_modifier defines the modifier for many Datum

4.1.106 Material_property

ae787 Material_property (see 6.1, 6.2, 6.3)

ae790 Material_property has the property_characteristics defined by zero Property_parameter (see 6.1, 6.3)

ae791 Material_property has the property_characteristics defined by one Property_parameter (see 6.2)

ae792 Material_property has the property_characteristics defined by many Property_parameter (see 6.3)

ae793 Material_property has the material_hardness defined by zero Hardness (see 6.1, 6.3)

ae794 Material_property has the material_hardness defined by one Hardness (see 6.2)

ae795 Material_property has the material_hardness defined by many Hardness (see 6.3)

ae796 Material_property defines the material_characteristics for exactly one Material (see 6.2, 6.3)

ae797 Material_property defines the material_characteristic for one Property (see 6.2, 6.3)

ae798 Material_property defines the material_characteristic for many Property

4.1.107 Material_requisition

ae799 Material_requisition (see 6.1, 6.2, 6.3)

4.1.108 Modular_fixture_requisition

ae800 Modular_fixture_requisition (see 6.1, 6.2, 6.3)

4.1.109 Ngon_base_shape

ae801 Ngon_base_shape (see 6.27)

ae805 Ngon_base_shape has the number_of_sides defined by exactly one Numeric_parameter (see 6.27)

ae806 Ngon_base_shape has the circumscribed_diameter defined by exactly one Numeric_parameter (see 6.27)

ae807 Ngon_base_shape has the corner_radius defined by exactly one Numeric_parameter (see 6.27)

4.1.110 Ngon_profile

ae808 Ngon_profile (see 6.20)

ae812 Ngon_profile has the number_of_sides defined by exactly one Numeric_parameter (see 6.20)

ae813 Ngon_profile has the circumscribed_diameter defined by exactly one Numeric_parameter (see 6.20)

ae814 Ngon_profile has the corner_radius defined by exactly one Numeric_parameter (see 6.20)

4.1.111 Numeric_parameter

ae815 Numeric_parameter (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae816 Numeric_parameter as Numeric_parameter_with_tolerance (excluded, is an abstract supertype)

ae817 Numeric_parameter with parameter_units (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae818 Numeric_parameter with parameter_value (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae820 Numeric_parameter defines slot_depth for many Slot

ae821 Numeric_parameter defines slot_depth for one Slot

ae822 Numeric_parameter defines slot_depth for zero Slot

ae823 Numeric_parameter defines the offset_amount for one First_offset

ae824 Numeric_parameter defines the offset_amount for many First_offset

ae825 Numeric_parameter defines the offset_amount for zero First_offset

ae826 Numeric_parameter defines the angle for many Angle_taper

ae827 Numeric_parameter defines the angle for one Angle_taper (see 6.4)

ae828 Numeric_parameter defines the angle for zero Angle_taper

ae829 Numeric_parameter defines the angle_amount for many Chamfer_angle

ae830 Numeric_parameter defines the angle_amount for one Chamfer_angle

ae831 Numeric_parameter defines the angle_amount for zero Chamfer_angle

ae832 Numeric_parameter defines the angular_offset for many Circular_offset_pattern

ae833 Numeric_parameter defines the angular_offset for one Circular_offset_pattern

ae834 Numeric_parameter defines the angular_offset for zero Circular_offset_pattern

ae835 Numeric_parameter defines the angular_spacing for many Circular_pattern

ae836 Numeric_parameter defines the angular_spacing for one Circular_pattern

ae837 Numeric_parameter defines the angular_spacing for zero Circular_pattern

ae838 Numeric_parameter defines the applied_length for many Partial_area_definition

ae839 Numeric_parameter defines the applied_length for one Partial_area_definition

ae840 Numeric_parameter defines the applied_length for zero Partial_area_definition

ae841 Numeric_parameter defines the base_feature_diameter for many Circular_pattern

ae842 Numeric_parameter defines the base_feature_diameter for one Circular_pattern

ae843 Numeric_parameter defines the base_feature_diameter for zero Circular_pattern

ae844 Numeric_parameter defines the base_feature_rotation for many Circular_pattern

ae845 Numeric_parameter defines the base_feature_rotation for one Circular_pattern

ae846 Numeric_parameter defines the base_feature_rotation for zero Circular_pattern

ae848 Numeric_parameter defines the base_shape_length for one Implicit_base_shape_representation (see 6.1)

ae849 Numeric_parameter defines the base_shape_length for zero Implicit_base_shape_representation (see 6.1)

ae850 Numeric_parameter defines the character_height for many Defined_marking

ae851 Numeric_parameter defines the character_height for one Defined_marking

ae852 Numeric_parameter defines the character_height for zero Defined_marking

ae853 Numeric_parameter defines the character_spacing for many Defined_marking

ae854 Numeric_parameter defines the character_spacing for one Defined_marking

ae855 Numeric_parameter defines the character_spacing for zero Defined_marking

ae856 Numeric_parameter defines the circumscribed_diameter for many Ngon_base_shape

ae857 Numeric_parameter defines the circumscribed_diameter for many Ngon_profile

ae858 Numeric_parameter defines the circumscribed_diameter for one Ngon_base_shape

ae859 Numeric_parameter defines the circumscribed_diameter for one Ngon_profile

ae860 Numeric_parameter defines the circumscribed_diameter for zero Ngon_base_shape

ae861 Numeric_parameter defines the circumscribed_diameter for zero Ngon_profile

ae862 Numeric_parameter defines the column_index for many Rectangular_offset_pattern

ae863 Numeric_parameter defines the column_index for many Rectangular_omit_pattern

ae864 Numeric_parameter defines the column_index for one Rectangular_offset_pattern

ae865 Numeric_parameter defines the column_index for one Rectangular_omit_pattern

ae866 Numeric_parameter defines the column_index for zero Rectangular_offset_pattern

ae867 Numeric_parameter defines the column_index for zero Rectangular_omit_pattern

ae868 Numeric_parameter defines the column_spacing for many Rectangular_pattern

ae869 Numeric_parameter defines the column_spacing for one Rectangular_pattern

ae870 Numeric_parameter defines the column_spacing for zero Rectangular_pattern

ae871 Numeric_parameter defines the columns for many Rectangular_pattern

ae872 Numeric_parameter defines the columns for one Rectangular_pattern

ae873 Numeric_parameter defines the columns for zero Rectangular_pattern

ae874 Numeric_parameter defines the corner_radius for many Flat_with_radius_hole_bottom (see 6.4)

ae875 Numeric_parameter defines the corner_radius for one Flat_with_radius_hole_bottom

ae876 Numeric_parameter defines the corner_radius for zero Flat_with_radius_hole_bottom

ae877 Numeric_parameter defines the corner_radius for many Ngon_base_shape

ae878 Numeric_parameter defines the corner_radius for many Ngon_profile

ae879 Numeric_parameter defines the corner_radius for many Rectangular_closed_profile

ae880 Numeric_parameter defines the corner_radius for one Ngon_base_shape

ae881 Numeric_parameter defines the corner_radius for one Ngon_profile

ae882 Numeric_parameter defines the corner_radius for one Rectangular_closed_profile

ae883 Numeric_parameter defines the corner_radius for zero Ngon_base_shape

ae884 Numeric_parameter defines the corner_radius for zero Ngon_profile

ae885 Numeric_parameter defines the corner_radius for zero Rectangular_closed_profile

ae886 Numeric_parameter defines the cross_bar_depth for one Tee_profile

ae887 Numeric_parameter defines the cross_bar_depth for zero Tee_profile

ae888 Numeric_parameter defines the cross_bar_depth for many Tee_profile

ae889 Numeric_parameter defines the cross_bar_width for zero Tee_profile

ae890 Numeric_parameter defines the cross_bar_width for one Tee_profile

ae891 Numeric_parameter defines the cross_bar_width for many Tee_profile

ae892 Numeric_parameter defines the depth for many Tee_profile
ae893 Numeric_parameter defines the depth for one Tee_profile
ae894 Numeric_parameter defines the depth for zero Tee_profile
ae901 Numeric_parameter defines the diameter for zero Circular_closed_profile (see 6.4)
ae898 Numeric_parameter defines the diameter for one Circular_closed_profile (see 6.4)
ae895 Numeric_parameter defines the diameter for many Circular_closed_profile (see 6.4)
ae902 Numeric_parameter defines the diameter for zero Cylindrical_base_shape (see 6.1)
ae899 Numeric_parameter defines the diameter for one Cylindrical_base_shape (see 6.1)
ae896 Numeric_parameter defines the diameter for many Cylindrical_base_shape
ae903 Numeric_parameter defines the diameter for zero Outer_diameter
ae900 Numeric_parameter defines the diameter for one Outer_diameter
ae897 Numeric_parameter defines the diameter for many Outer_diameter
ae906 Numeric_parameter defines the diametral_pitch for zero Turned_knurl
ae905 Numeric_parameter defines the diametral_pitch for one Turned_knurl
ae904 Numeric_parameter defines the diametral_pitch for many Turned_knurl
ae909 Numeric_parameter defines the distance for zero Linear_path (see 6.4)
ae908 Numeric_parameter defines the distance for one Linear_path (see 6.4)
ae907 Numeric_parameter defines the distance for many Linear_path (see 6.4)
ae910 Numeric_parameter defines the feature_length for many Outer_diameter
ae911 Numeric_parameter defines the feature_length for one Outer_diameter
ae912 Numeric_parameter defines the feature_length for zero Outer_diameter
ae913 Numeric_parameter defines the fillet_radius for many Boss
ae914 Numeric_parameter defines the fillet_radius for one Boss
ae915 Numeric_parameter defines the fillet_radius for zero Boss
ae916 Numeric_parameter defines the final_diameter for many Diameter_taper
ae917 Numeric_parameter defines the final_diameter for one Diameter_taper
ae918 Numeric_parameter defines the final_diameter for zero Diameter_taper
ae919 Numeric_parameter defines the first_angle for many Tee_profile
ae920 Numeric_parameter defines the first_angle for one Tee_profile
ae921 Numeric_parameter defines the first_angle for zero Tee_profile
ae922 Numeric_parameter defines the first_offset for many Tee_profile
ae923 Numeric_parameter defines the first_offset for one Tee_profile
ae924 Numeric_parameter defines the first_offset for zero Tee_profile
ae925 Numeric_parameter defines the first_angle for many Square_U_profile
ae926 Numeric_parameter defines the first_angle for one Square_U_profile
ae927 Numeric_parameter defines the first_angle for zero Square_U_profile
ae928 Numeric_parameter defines the first_face_offset for many Constant_radius_edge_round
ae929 Numeric_parameter defines the first_face_offset for many Constant_radius_fillet
ae930 Numeric_parameter defines the first_face_offset for one Constant_radius_edge_round
ae931 Numeric_parameter defines the first_face_offset for one Constant_radius_fillet
ae932 Numeric_parameter defines the first_face_offset for zero Constant_radius_edge_round
ae933 Numeric_parameter defines the first_face_offset for zero Constant_radius_fillet
ae934 Numeric_parameter defines the first_radius for many Flat_slot_end_type
ae935 Numeric_parameter defines the first_radius for many Square_U_profile
ae936 Numeric_parameter defines the first_radius for one Flat_slot_end_type
ae937 Numeric_parameter defines the first_radius for one Square_U_profile

ae938 Numeric_parameter defines the first_radius for zero Flat_slot_end_type
ae939 Numeric_parameter defines the first_radius for zero Square_U_profile
ae940 Numeric_parameter defines the floor_radius for many General_pocket_bottom_condition
ae941 Numeric_parameter defines the floor_radius for many Planar_pocket_bottom_condition
ae942 Numeric_parameter defines the floor_radius for one General_pocket_bottom_condition
ae943 Numeric_parameter defines the floor_radius for one Planar_pocket_bottom_condition
ae944 Numeric_parameter defines the floor_radius for zero General_pocket_bottom_condition
ae945 Numeric_parameter defines the floor_radius for zero Planar_pocket_bottom_condition
ae946 Numeric_parameter defines the height for many Block_base_shape
ae947 Numeric_parameter defines the height for one Block_base_shape
ae948 Numeric_parameter defines the height for zero Block_base_shape
ae949 Numeric_parameter defines the helix_angle for many Diagonal_knurl
ae950 Numeric_parameter defines the helix_angle for many Diamond_knurl
ae951 Numeric_parameter defines the helix_angle for one Diagonal_knurl
ae952 Numeric_parameter defines the helix_angle for one Diamond_knurl
ae953 Numeric_parameter defines the helix_angle for zero Diagonal_knurl
ae954 Numeric_parameter defines the helix_angle for zero Diamond_knurl
ae955 Numeric_parameter defines the index_number for many Circular_offset_pattern
ae956 Numeric_parameter defines the index_number for one Circular_offset_pattern
ae957 Numeric_parameter defines the index_number for zero Circular_offset_pattern
ae958 Numeric_parameter defines the internal_angle for many Spherical_cap
ae959 Numeric_parameter defines the internal_angle for one Spherical_cap
ae960 Numeric_parameter defines the internal_angle for zero Spherical_cap
ae961 Numeric_parameter defines the major_diameter for many Defined_thread
ae962 Numeric_parameter defines the major_diameter for many Turned_knurl
ae963 Numeric_parameter defines the major_diameter for one Defined_thread
ae964 Numeric_parameter defines the major_diameter for one Turned_knurl
ae965 Numeric_parameter defines the major_diameter for zero Defined_thread
ae966 Numeric_parameter defines the major_diameter for zero Turned_knurl
ae967 Numeric_parameter defines the minor_diameter for many Defined_thread
ae968 Numeric_parameter defines the minor_diameter for one Defined_thread
ae969 Numeric_parameter defines the minor_diameter for zero Defined_thread
ae970 Numeric_parameter defines the nominal_diameter for many Turned_knurl
ae971 Numeric_parameter defines the nominal_diameter for one Turned_knurl
ae972 Numeric_parameter defines the nominal_diameter for zero Turned_knurl
ae973 Numeric_parameter defines the number_of_features for many Circular_pattern
ae974 Numeric_parameter defines the number_of_features for one Circular_pattern
ae975 Numeric_parameter defines the number_of_features for zero Circular_pattern
ae976 Numeric_parameter defines the number_of_sides for many Ngon_base_shape
ae977 Numeric_parameter defines the number_of_sides for many Ngon_profile
ae978 Numeric_parameter defines the number_of_sides for one Ngon_base_shape
ae979 Numeric_parameter defines the number_of_sides for one Ngon_profile
ae980 Numeric_parameter defines the number_of_sides for zero Ngon_base_shape
ae981 Numeric_parameter defines the number_of_sides for zero Ngon_profile
ae982 Numeric_parameter defines the number_of_teeth for many Turned_nurl
ae983 Numeric_parameter defines the number_of_teeth for one Turned_knurl

ae984 Numeric_parameter defines the number_of_teeth for zero Turned_knurl
ae985 Numeric_parameter defines the number_of_threads for many Defined_thread
ae986 Numeric_parameter defines the number_of_threads for one Defined_thread
ae987 Numeric_parameter defines the number_of_threads for zero Defined_thread
ae988 Numeric_parameter defines the offset_amount for many Second_offset
ae989 Numeric_parameter defines the offset_amount for one Second_offset
ae990 Numeric_parameter defines the offset_amount for zero Second_offset
ae991 Numeric_parameter defines the offset_distance for many Rectangular_offset_pattern
ae992 Numeric_parameter defines the offset_distance for one Rectangular_offset_pattern
ae993 Numeric_parameter defines the offset_distance for zero Rectangular_offset_pattern
ae994 Numeric_parameter defines the omit_index for many Circular_omit_pattern
ae995 Numeric_parameter defines the omit_index for one Circular_omit_pattern
ae996 Numeric_parameter defines the omit_index for zero Circular_omit_pattern
ae997 Numeric_parameter defines the pitch_diameter for many Defined_thread
ae998 Numeric_parameter defines the pitch_diameter for one Defined_thread
ae999 Numeric_parameter defines the pitch_diameter for zero Defined_thread
ae1000 Numeric_parameter defines the profile_angle for many Vee_profile
ae1001 Numeric_parameter defines the profile_angle for one Vee_profile
ae1002 Numeric_parameter defines the profile_angle for zero Vee_profile
ae1003 Numeric_parameter defines the profile_length for many Linear_profile
ae1004 Numeric_parameter defines the profile_length for many Rectangular_closed_profile
ae1005 Numeric_parameter defines the profile_length for one Linear_profile
ae1006 Numeric_parameter defines the profile_length for one Rectangular_closed_profile
ae1007 Numeric_parameter defines the profile_length for zero Linear_profile
ae1008 Numeric_parameter defines the profile_length for zero Rectangular_closed_profile
ae1009 Numeric_parameter defines the profile_radius for many Vee_profile
ae1010 Numeric_parameter defines the profile_radius for one Vee_profile
ae1011 Numeric_parameter defines the profile_radius for zero Vee_profile
ae1012 Numeric_parameter defines the profile_width for many Rectangular_closed_profile
ae1013 Numeric_parameter defines the profile_width for one Rectangular_closed_profile
ae1014 Numeric_parameter defines the profile_width for zero Rectangular_closed_profile
ae1015 Numeric_parameter defines the radius for many Circular_path
ae1016 Numeric_parameter defines the radius for many Constant_radius_edge_round
ae1017 Numeric_parameter defines the radius for many Constant_radius_fillet
ae1018 Numeric_parameter defines the radius for many Partial_circular_profile
ae1019 Numeric_parameter defines the radius for many Revolved_feature
ae1020 Numeric_parameter defines the radius for many Spherical_cap
ae1021 Numeric_parameter defines the radius for many Spherical_hole_bottom
ae1022 Numeric_parameter defines the radius for many Tee_profile
ae1023 Numeric_parameter defines the radius for many Woodruff_slot_end_type
ae1024 Numeric_parameter defines the radius for one Circular_path
ae1025 Numeric_parameter defines the radius for one Constant_radius_edge_round
ae1026 Numeric_parameter defines the radius for one Constant_radius_fillet
ae1027 Numeric_parameter defines the radius for one Partial_circular_profile
ae1028 Numeric_parameter defines the radius for one Revolved_feature
ae1029 Numeric_parameter defines the radius for one Spherical_cap

ae1030 Numeric_parameter defines the radius for one Spherical_hole_bottom
ae1031 Numeric_parameter defines the radius for one Tee_profile
ae1032 Numeric_parameter defines the radius for one Woodruff_slot_end_type
ae1033 Numeric_parameter defines the radius for zero Circular_path
ae1034 Numeric_parameter defines the radius for zero Constant_radius_edge_round
ae1035 Numeric_parameter defines the radius for zero Constant_radius_fillet
ae1036 Numeric_parameter defines the radius for zero Partial_circular_profile
ae1037 Numeric_parameter defines the radius for zero Revolved_feature
ae1038 Numeric_parameter defines the radius for zero Spherical_cap
ae1039 Numeric_parameter defines the radius for zero Spherical_hole_bottom
ae1040 Numeric_parameter defines the radius for zero Tee_profile
ae1041 Numeric_parameter defines the radius for zero Woodruff_slot_end_type
ae1042 Numeric_parameter defines the root_fillet for many Turned_knurl
ae1043 Numeric_parameter defines the root_fillet for one Turned_knurl
ae1044 Numeric_parameter defines the root_fillet for zero Turned_knurl
ae1045 Numeric_parameter defines the row_index for many Rectangular_offset_pattern
ae1046 Numeric_parameter defines the row_index for many Rectangular_omit_pattern
ae1047 Numeric_parameter defines the row_index for one Rectangular_offset_pattern
ae1048 Numeric_parameter defines the row_index for one Rectangular_omit_pattern
ae1049 Numeric_parameter defines the row_index for zero Rectangular_offset_pattern
ae1050 Numeric_parameter defines the row_index for zero Rectangular_omit_pattern
ae1051 Numeric_parameter defines the row_spacing for many Rectangular_pattern
ae1052 Numeric_parameter defines the row_spacing for one Rectangular_pattern
ae1053 Numeric_parameter defines the row_spacing for zero Rectangular_pattern
ae1054 Numeric_parameter defines the rows for many Rectangular_pattern
ae1055 Numeric_parameter defines the rows for one Rectangular_pattern
ae1056 Numeric_parameter defines the rows for zero Rectangular_pattern
ae1057 Numeric_parameter defines the second angle for many Tee_profile
ae1058 Numeric_parameter defines the second angle for one Tee_profile
ae1059 Numeric_parameter defines the second angle for zero Tee_profile
ae1060 Numeric_parameter defines the second offset for many Tee_profile
ae1061 Numeric_parameter defines the second offset for one Tee_profile
ae1062 Numeric_parameter defines the second offset for zero Tee_profile
ae1063 Numeric_parameter defines the second_angle for many Square_U_profile
ae1064 Numeric_parameter defines the second_angle for one Square_U_profile
ae1065 Numeric_parameter defines the second_angle for zero Square_U_profile
ae1066 Numeric_parameter defines the second_face_offset for many Constant_radius_edge_round
ae1067 Numeric_parameter defines the second_face_offset for many Constant_radius_fillet
ae1068 Numeric_parameter defines the second_face_offset for one Constant_radius_edge_round
ae1069 Numeric_parameter defines the second_face_offset for one Constant_radius_fillet
ae1070 Numeric_parameter defines the second_face_offset for zero Constant_radius_edge_round
ae1071 Numeric_parameter defines the second_face_offset for zero Constant_radius_fillet
ae1072 Numeric_parameter defines the second_radius for many Flat_slot_end_type
ae1073 Numeric_parameter defines the second_radius for many Square_U_profile
ae1074 Numeric_parameter defines the second_radius for one Flat_slot_end_type
ae1075 Numeric_parameter defines the second_radius for one Square_U_profile

ae1076 Numeric_parameter defines the second_radius for zero Flat_slot_end_type
 ae1077 Numeric_parameter defines the second_radius for zero Square_U_profile
 ae1078 Numeric_parameter defines the sweep_angle for many Partial_circular_path
 ae1079 Numeric_parameter defines the sweep_angle for many Partial_circular_profile
 ae1080 Numeric_parameter defines the sweep_angle for one Partial_circular_path
 ae1081 Numeric_parameter defines the sweep_angle for one Partial_circular_profile
 ae1082 Numeric_parameter defines the sweep_angle for zero Partial_circular_path
 ae1083 Numeric_parameter defines the sweep_angle for zero Partial_circular_profile
 ae1084 Numeric_parameter defines the tilt_angle for many Vee_profile
 ae1085 Numeric_parameter defines the tilt_angle for one Vee_profile
 ae1086 Numeric_parameter defines the tilt_angle for zero Vee_profile
 ae1087 Numeric_parameter defines the tip_angle for many Conical_hole_bottom
 ae1088 Numeric_parameter defines the tip_angle for one Conical_hole_bottom
 ae1089 Numeric_parameter defines the tip_angle for zero Conical_hole_bottom
 ae1090 Numeric_parameter defines the tip_radius for many Conical_hole_bottom
 ae1091 Numeric_parameter defines the tip_radius for one Conical_hole_bottom
 ae1092 Numeric_parameter defines the tip_radius for zero Conical_hole_bottom
 ae1093 Numeric_parameter defines the tooth_depth for many Turned_knurl
 ae1094 Numeric_parameter defines the tooth_depth for one Turned_knurl
 ae1095 Numeric_parameter defines the tooth_depth for zero Turned_knurl
 ae1096 Numeric_parameter defines the width for many Block_base_shape
 ae1097 Numeric_parameter defines the width for many Rounded_U_profile
 ae1098 Numeric_parameter defines the width for many Square_U_profile
 ae1099 Numeric_parameter defines the width for many Tee_profile
 ae1100 Numeric_parameter defines the width for one Block_base_shape
 ae1101 Numeric_parameter defines the width for one Rounded_U_profile
 ae1102 Numeric_parameter defines the width for one Square_U_profile
 ae1103 Numeric_parameter defines the width for one Tee_profile
 ae1104 Numeric_parameter defines the width for zero Block_base_shape
 ae1105 Numeric_parameter defines the width for zero Rounded_U_profile
 ae1106 Numeric_parameter defines the width for zero Square_U_profile
 ae1107 Numeric_parameter defines the width for zero Tee_profile

4.1.112 Numeric_parameter_with_tolerance

ae1108 Numeric_parameter_with_tolerance (see 6.22)
 ae1110 Numeric_parameter_with_tolerance may have implicit_tolerance defined by exactly one Plus_minus_value (see 6.22)
 ae1111 Numeric_parameter_with_tolerance may have implicit_tolerance defined by exactly one Tolerance_limit (see 6.22)

4.1.113 Open_profile

ae1112 Open_profile (excluded, is an abstract supertype)
 ae1113 Open_profile as General_open_profile (excluded, is an abstract supertype)

ae1114 Open_profile as Linear_profile (excluded, is an abstract supertype)
 ae1115 Open_profile as Partial_circular_profile (excluded, is an abstract supertype)
 ae1116 Open_profile as Rounded_U_profile (excluded, is an abstract supertype)
 ae1117 Open_profile as Square_U_profile (excluded, is an abstract supertype)
 ae1118 Open_profile as Tee_profile (excluded, is an abstract supertype)
 ae1119 Open_profile as Vee_profile (excluded, is an abstract supertype)
 ae1120 Open_profile defines the sweep for zero Groove
 ae1121 Open_profile defines the sweep for one Groove (see 6.11)
 ae1122 Open_profile defines the sweep for many Groove (see 6.11)
 ae1123 Open_profile defines the sweep_shape for zero Slot
 ae1124 Open_profile defines the sweep_shape for one Slot (see 6.7)
 ae1125 Open_profile defines the sweep_shape for many Slot (see 6.7)

4.1.114 Open_slot_end_type

ae1126 Open_slot_end_type (see 6.7, 6.8, 6.8, 6.9, 6.15, 6.21, 6.24, 6.26)

4.1.115 Ordered_part

ae1127 Ordered_part (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1128 Ordered_part with quantity_required (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1129 Ordered_part with quantity_unit_of_measure (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1130 Ordered_part defines the quantity_ordered by zero Customer_order (see 6.1)
 ae1131 Ordered_part defines the quantity_ordered by one Customer_order (see 6.1, 6.2, 6.3)
 ae1132 Ordered_part defines quantity_ordered for exactly one part (see 6.1, 6.2, 6.3)

4.1.116 Organization

ae1133 Organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1134 Organization with organization_address (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1135 Organization with organization_id (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1136 Organization with organization_name (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 ae1137 Organization defines the manufactured_by_organization for one Part (see 6.1, 6.2)
 ae1138 Organization defines the manufactured_by_organization for many Part (see 6.3)
 ae1139 Organization defines the owned_by_organization for zero Part (see 6.1)
 ae1140 Organization defines the owned_by_organization for one Part (see 6.1, 6.2)
 ae1141 Organization defines the owned_by_organization for many Part (see 6.3)
 ae1142 Organization defines the company for zero Person_in_organization

ae1143 Organization defines the company for one Person_in_organization (see 6.1)

ae1144 Organization defines the company for many Person_in_organization (see 6.2, 6.3)

4.1.117 Orientation

ae1145 Orientation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1146 Orientation with axis (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1147 Orientation with location (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1148 Orientation defines the affected_plane for zero Straightness_tolerance

ae1149 Orientation defines the affected_plane for one Straightness_tolerance (see 6.24, 6.28)

ae1150 Orientation defines the affected_plane for many Straightness_tolerance

ae1151 Orientation defines the feature_placement for zero General_pattern

ae1152 Orientation defines the feature_placement for one General_pattern

ae1153 Orientation defines the feature_placement for many General_pattern

ae1154 Orientation defines the affected_plane for zero Symmetry_tolerance

ae1155 Orientation defines the affected_plane for one Symmetry_tolerance

ae1156 Orientation defines the affected_plane for many Symmetry_tolerance

ae1157 Orientation defines the placement for zero Replicate_feature

ae1158 Orientation defines the placement for one Replicate_feature

ae1159 Orientation defines the placement for many Replicate_feature

ae1160 Orientation defines the placement for zero Placed_target

ae1161 Orientation defines the placement for one Placed_target

ae1162 Orientation defines the placement for many Placed_target

ae1163 Orientation defines the placement for zero Profile object

ae1164 Orientation defines the placement for one Profile object

ae1165 Orientation defines the placement for many Profile object

ae1166 Orientation defines the placement for zero Machining_feature (see 6.4)

ae1167 Orientation defines the placement for one Machining_feature (see 6.4)

ae1168 Orientation defines the placement for many Machining_feature (see 6.4)

ae1169 Orientation defines a plane and direction for zero Location_dimension_tolerance

ae1170 Orientation defines a plane and direction for one Location_dimension_tolerance

ae1171 Orientation defines a plane and direction for many Location_dimension_tolerance

ae1172 Orientation defines the affected_plane for zero Linear_profile_tolerance

ae1173 Orientation defines the affected_plane for one Linear_profile_tolerance

ae1174 Orientation defines the affected_plane for many Linear_profile_tolerance

ae1175 Orientation defines the affected_plane for zero Position_tolerance

ae1176 Orientation defines the affected_plane for one Position_tolerance

ae1177 Orientation defines the affected_plane for many Position_tolerance

ae1178 Orientation defines the affected_plane for zero Perpendicularity_tolerance

ae1179 Orientation defines the affected_plane for one Perpendicularity_tolerance

ae1180 Orientation defines the affected_plane for many Perpendicularity_tolerance

ae1181 Orientation defines the affected_plane for zero Parallelism_tolerance

ae1182 Orientation defines the affected_plane for one Parallelism_tolerance
 ae1183 Orientation defines the affected_plane for many Parallelism_tolerance
 ae1184 Orientation defines the placement for zero Implicit_base_shape_representation
 ae1185 Orientation defines the placement for one Implicit_base_shape_representation (see 6.1, 6.2, 6.3)
 ae1186 Orientation defines the placement for many Implicit_base_shape_representation
 ae1187 Orientation defines the placement for zero Path (see 6.4)
 ae1188 Orientation defines the placement for one Path (see 6.4)
 ae1189 Orientation defines the placement for many Path
 ae1190 Orientation defines the placement for zero Partial_area_definition
 ae1191 Orientation defines the placement for one Partial_area_definition
 ae1192 Orientation defines the placement for many Partial_area_definition

4.1.118 Outer_diameter

ae1193 Outer_diameter (see 6.6, 6.14, 6.16, 6.17, 6.24, 6.28)
 ae1197 Outer_diameter has the diameter defined by exactly one Numeric_parameter (see 6.6, 6.14, 6.16, 6.17, 6.24, 6.28)
 ae1198 Outer_diameter has the feature_length defined by exactly one Numeric_parameter (see 6.6, 6.14, 6.16, 6.17, 6.24, 6.28)
 ae1199 Outer_diameter has the reduced_size defined by zero Angle_taper (see 6.14, 6.16, 6.17, 6.24, 6.28)
)
 ae1200 Outer_diameter has the reduced_size defined by one Angle_taper (see 6.6)
 ae1201 Outer_diameter has the reduced_size defined by zero Diameter_taper
 ae1202 Outer_diameter has the reduced_size defined by one Diameter_taper (see 6.6)

4.1.119 Outer_diameter_to_should

ae1203 Outer_diameter_to_should (see 6.6, 6.16, 6.24)
 ae1205 Outer_diameter_to_should with v_shape_boundary (see 6.6, 6.16, 6.24)
 ae1206 Outer_diameter_to_should has the diameter defined by exactly one Numeric_parameter (see 6.6, 6.16, 6.24)
 ae1207 Outer_diameter_to_should has the v_shape_boundary defined by exactly one Vee_profile (see 6.6, 6.16, 6.24)

4.1.120 Outer_round

ae1208 Outer_round (excluded, is an abstract supertype)
 ae1209 Outer_round as Outer_diameter (excluded, is an abstract supertype)
 ae1210 Outer_round as Outer_diameter_to_should (excluded, is an abstract supertype)

4.1.121 Parallelism_tolerance

ae1211 Parallelism_tolerance (see 6.24)
 ae1213 Parallelism_tolerance with geometric_reference
 ae1214 Parallelism_tolerance with segment_size (see 6.24)

ae1215 Parallelism_tolerance has an affected_plane defined by zero Orientation

ae1216 Parallelism_tolerance has an affected_plane defined by one Orientation (see 6.24)

ae1217 Parallelism_tolerance has the geometric_reference defined by exactly one Datum (see 6.24)

4.1.122 Part

ae1218 Part (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1226 Part with part_description (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1227 Part with part_id (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1228 Part with part_name (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1229 Part with part_revision_id (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1233 Part with security_classification (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1234 Part has the alternate_material_definition defined by zero Alternate_material (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1235 Part has the alternate_material_definition defined by one Alternate_material (see 6.2)

ae1236 Part has the alternate_material_definition defined by many Alternate_material (see 6.3)

ae1237 Part has the manufacture_authorization defined by zero Approval (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1238 Part has the manufacture_authorization defined by one Approval (see 6.2)

ae1239 Part has the manufacture_authorization defined by many Approval (see 6.3)

ae1240 Part has the material_definition defined by one Material (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1241 Part has the material_definition defined by many Material (see 6.3)

ae1242 Part has the quantity_ordered defined by one Ordered_part (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1243 Part has the quantity_ordered defined by many Ordered_part (see 6.3)

ae1244 Part has the manufactured_by_organization defined by one Organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1245 Part has the manufactured_by_organization defined by many Organization (see 6.3)

ae1246 Part has the owned_by_organization defined by exactly one Organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1247 Part has the owned_by_organization defined by exactly many Organization (see 6.3)

ae1248 Part has the manufactured_by_person defined by one Person_in_organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24,

6.25, 6.26, 6.27, 6.28)

ae1249 Part has the manufactured_by_person defined by many Person_in_organization (see 6.3)

ae1250 Part has the owned_by_person defined by one Person_in_organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1251 Part has the owned_by_person defined by many Person_in_organization (see 6.3)

ae1252 Part has the property_characteristics defined by zero Property (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1253 Part has the property_characteristics defined by one Property (see 6.2)

ae1254 Part has the property_characteristics defined by many Property (see 6.3)

ae1255 Part has the physical_form defined by exactly one Shape (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1256 Part defines the part_status for exactly one Project_order (see 6.2, 6.3)

ae1257 Part defines the new_version_changes by zero Engineering_change_order

ae1258 Part defines the new_version_changes by one Engineering_change_order (see 6.2, 6.3)

ae1259 Part defines the discrepant_part for zero Design_exception_notice

ae1260 Part defines the discrepant_part for one Design_exception_notice (see 6.2, 6.3)

ae1261 Part defines the discrepant_part for many Design_exception_notice

4.1.123 Part_property

ae1262 Part_property (see 6.2, 6.3)

ae1264 Part_property has the property_characteristic defined by zero Property_parameter (see 6.2)

ae1265 Part_property has the property_characteristic defined by one Property_parameter (see 6.3)

ae1266 Part_property has the property_characteristic defined by many Property_parameter (see 6.3)

ae1267 Part_property defines the part_property_characteristic for one Property

ae1268 Part_property defines the part_property_characteristic for many Property

4.1.124 Partial_area_definition

ae1269 Partial_area_definition (see 6.14, 6.16)

ae1272 Partial_area_definition has the applied_length defined by exactly one Numeric_parameter (see 6.14, 6.16)

ae1273 Partial_area_definition has the placement defined by exactly one Orientation (see 6.14, 6.16)

ae1274 Partial_area_definition defines the partial_profile for zero Thread

ae1275 Partial_area_definition defines the partial_profile for one Thread

ae1276 Partial_area_definition defines the partial_profile for many Thread

ae1277 Partial_area_definition defines the partial_profile for zero Knurl

ae1278 Partial_area_definition defines the partial_profile for one Knurl

ae1279 Partial_area_definition defines the partial_profile for many Knurl

4.1.125 Partial_circular_path

ae1280 Partial_circular_path (see 6.21, 6.22)

ae1282 Partial_circular_path has the sweep_angle defined by exactly one Numeric_parameter (see 6.21, 6.22)

4.1.126 Partial_circular_profile

ae1283 Partial_circular_profile (see 6.7, 6.8, 6.10, 6.11)

ae1286 Partial_circular_profile has the radius defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.10, 6.11)

ae1287 Partial_circular_profile has the sweep_angle defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.10, 6.11)

ae1288 Partial_circular_profile defines the rounded_edge_shape for zero Revolved_round

ae1289 Partial_circular_profile defines the rounded_edge_shape for one Revolved_round

ae1290 Partial_circular_profile defines the rounded_edge_shape for many Revolved_round

ae1291 Partial_circular_profile defines a partial_circular_boundary for zero Rounded_end

ae1292 Partial_circular_profile defines a partial_circular_boundary for one Rounded_end

ae1293 Partial_circular_profile defines a partial_circular_boundary for many Rounded_end

4.1.127 Path

ae1294 Path (excluded, is an abstract supertype)

ae1295 Path as Circular_path (excluded, is an abstract supertype)

ae1296 Path as General_path (excluded, is an abstract supertype)

ae1297 Path as Linear_path (excluded, is an abstract supertype)

ae1299 Path has the placement defined by exactly one Orientation (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.14, 6.15, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1300 Path defines the course_of_travel for zero Slot

ae1301 Path defines the course_of_travel for one Slot

ae1302 Path defines the course_of_travel for many Slot

4.1.128 Path_element

ae1303 Path_element (see 6.5, 6.7, 6.11, 6.12, 6.13, 6.20, 6.21)

ae1304 Path_element identifies the enclosed boundary for zero General_open_profile

ae1305 Path_element identifies the enclosed boundary for one General_open_profile

ae1306 Path_element identifies the enclosed boundary for many General_open_profile

ae1307 Path_element defines the sweep_path for zero General_path

ae1308 Path_element defines the sweep_path for one General_path

ae1309 Path_element defines the sweep_path for many General_path

ae1310 Path_element defines the closed_profile_shape for zero General_closed_profile

ae1311 Path_element defines the closed_profile_shape for one General_closed_profile (see 6.5)

ae1312 Path_element defines the closed_profile_shape for many General_closed_profile

4.1.129 Pedigree_creation_order

ae1313 Pedigree_creation_order (see 6.2, 6.3)

ae1314 Pedigree_creation_order with order_id (see 6.2, 6.3)

ae1315 Pedigree_creation_order defines the pedigree_creation_status for exactly one Project_order (see 6.2, 6.3)

4.1.130 Perpendicularity_tolerance

ae1316 Perpendicularity_tolerance (see 6.24)

ae1318 Perpendicularity_tolerance with segment_size (see 6.24)

ae1319 Perpendicularity_tolerance has the geometric_reference defined by exactly one Datum (see 6.24)

ae1320 Perpendicularity_tolerance has the affected_plane defined by zero or one Orientation (see 6.24)

4.1.131 Person

ae1321 Person (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1322 Person with person_address (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1323 Person with person_id (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1324 Person with person_name (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1325 Person with person_phone_number (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1326 Person defines the employee for zero Person_in_organization

ae1327 Person defines the employee for one Person_in_organization (see 6.1, 6.2, 6.3)

ae1328 Person defines the employee for many Person_in_organization

4.1.132 Person_in_organization

ae1329 Person_in_organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1332 Person_in_organization with role (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1333 Person_in_organization has the company defined by exactly one Organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1334 Person_in_organization has the employee defined by exactly one Person (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1335 Person_in_organization defines the owned_by_person for zero Part (see 6.1, 6.2, 6.3)

ae1336 Person_in_organization defines the owned_by_person for one Part (see 6.1, 6.2, 6.3)

ae1337 Person_in_organization defines the owned_by_person for many Part (see 6.3)
ae1338 Person_in_organization defines the manufactured_by_person for zero Part (see 6.1, 6.2, 6.3)
ae1339 Person_in_organization defines the manufactured_by_person for one Part (see 6.1, 6.2, 6.3)
ae1340 Person_in_organization defines the manufactured_by_person for many Part (see 6.3)
ae1341 Person_in_organization is the approval_authority for zero Approval (see 6.1, 6.2, 6.3)
ae1342 Person_in_organization is the approval_authority for one Approval (see 6.1, 6.2, 6.3)
ae1343 Person_in_organization is the approval_authority for many Approval (see 6.3)
ae1344 Person_in_organization defines the customer for zero Customer_order (see 6.1, 6.2, 6.3)
ae1345 Person_in_organization defines the customer for one Customer_order (see 6.1, 6.2, 6.3)
ae1346 Person_in_organization defines the customer for many Customer_order (see 6.3)

4.1.133 Placed_target

ae1347 Placed_target (excluded, is an abstract supertype)
ae1348 Placed_target as Target_point (excluded, is an abstract supertype)
ae1349 Placed_target as Target_line (excluded, is an abstract supertype)
ae1350 Placed_target as Target_rectangle (excluded, is an abstract supertype)
ae1351 Placed_target as Target_circle (excluded, is an abstract supertype)
ae1353 Placed_target has the placement defined by exactly one Orientation (see 6.24, 6.26)

4.1.134 Planar_face

ae1354 Planar_face (see 6.10, 6.22, 6.24, 6.25, 6.26, 6.28)
ae1358 Planar_face has the removal_direction defined by exactly one Direction_element (see 6.10, 6.22, 6.24, 6.25, 6.26, 6.28)
ae1359 Planar_face has the course_of_travel defined by exactly one Linear_path (see 6.10, 6.22, 6.24, 6.25, 6.26, 6.28)
ae1360 Planar_face has the removal_boundary defined by exactly one Linear_profile (see 6.10, 6.22, 6.24, 6.25, 6.26, 6.28)

4.1.135 Planar_pocket_bottom_condition

ae1361 Planar_pocket_bottom_condition (see 6.13)
ae1365 Planar_pocket_bottom_condition has the floor_normal defined by exactly one Direction_element (see 6.13)
ae1366 Planar_pocket_bottom_condition has the floor_location defined by exactly one Location_element (see 6.13)
ae1367 Planar_pocket_bottom_condition has the floor_radius defined by exactly one Numeric_parameter (see 6.13)

4.1.136 Planar_top_condition

ae1368 Planar_top_condition (see 6.5, 6.12, 6.15)

ae1371 Planar_top_condition has the top_normal defined by exactly one Direction_element (see 6.5, 6.12, 6.15)

ae1372 Planar_top_condition has the top_location defined by exactly one Location_element (see 6.5, 6.12, 6.15)

4.1.137 Plus_minus_value

ae1373 Plus_minus_value (see 6.22, 6.25)

ae1374 Plus_minus_value with lower_limit (see 6.22, 6.25)

ae1375 Plus_minus_value with significant_digits (see 6.22, 6.25)

ae1376 Plus_minus_value with upper_limit (see 6.22, 6.25)

ae1377 Plus_minus_value defines the define_values for zero Tolerance_value

ae1378 Plus_minus_value defines the define_values for one Tolerance_value

ae1379 Plus_minus_value defines the define_values for many Tolerance_value

ae1380 Plus_minus_value defines the implicit_tolerance for zero Numeric_parameter_with_tolerance

ae1381 Plus_minus_value defines the implicit_tolerance for one Numeric_parameter_with_tolerance

ae1382 Plus_minus_value defines the implicit_tolerance for many Numeric_parameter_with_tolerance

4.1.138 Pocket

ae1383 Pocket (excluded, is an abstract supertype)

ae1384 Pocket as General_pocket (excluded, is an abstract supertype)

ae1385 Pocket as Rectangular_closed_pocket (excluded, is an abstract supertype)

ae1386 Pocket as Rectangular_open_pocket (excluded, is an abstract supertype)

ae1390 Pocket has the pocket_depth defined by exactly one Linear_path (see 6.13, 6.20, 6.27)

ae1391 Pocket has the change_in_boundary defined by zero Angle_taper (see 6.13, 6.20, 6.27)

ae1392 Pocket has the change_in_boundary defined by one Angle_taper (see 6.13)

ae1393 Pocket has the bottom_condition defined by exactly one Pocket_bottom_condition (see 6.13, 6.20, 6.27)

4.1.139 Pocket_bottom_condition

ae1394 Pocket_bottom_condition (excluded, is an abstract supertype)

ae1395 Pocket_bottom_condition as General_pocket_bottom_condition (excluded, is an abstract supertype)

ae1396 Pocket_bottom_condition as Planar_pocket_bottom_condition (excluded, is an abstract supertype)

ae1397 Pocket_bottom_condition as Through_pocket_bottom_condition (excluded, is an abstract supertype)

ae1398 Pocket_bottom_condition with start_or_end = .TRUE. (see 6.13, 6.20, 6.27)

ae1399 Pocket_bottom_condition with start_or_end = .FALSE. (see 6.13)

ae1400 Pocket_bottom_condition defines the bottom_condition for zero Pocket

ae1401 Pocket_bottom_condition defines the bottom_condition for one Pocket

ae1402 Pocket_bottom_condition defines the bottom_condition for many Pocket

4.1.140 Position_tolerance

ae1403 Position_tolerance (see 6.24)

ae1406 Position_tolerance with value_qualifier (see 6.24)

ae1407 Position_tolerance has the geometric_reference defined by one Datum (see 6.24)

ae1408 Position_tolerance has the geometric_reference defined by two Datum

ae1409 Position_tolerance has the geometric_reference defined by three Datum

ae1410 Position_tolerance has the affected_plane defined by exactly one Orientation (see 6.24)

4.1.141 Process_property

ae1411 Process_property (see 6.2, 6.3)

ae1412 Process_property with process_name (see 6.2, 6.3)

ae1414 Process_property has the property_characteristic defined by zero Property_parameter (see 6.2)

ae1415 Process_property has the property_characteristic defined by one Property_parameter (see 6.3)

ae1416 Process_property has the property_characteristic defined by many Property_parameters (see 6.3)

ae1417 Process_property defines the process_characteristic for one Property (see 6.2, 6.3)

ae1418 Process_property defines the process_characteristic for many Property

4.1.142 Profile

ae1419 Profile (excluded, is an abstract supertype)

ae1421 Profile has the placement defined by exactly one Orientation (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.13, 6.15, 6.21, 6.22, 6.24, 6.25, 6.26, 6.28)

ae1422 Profile defines outside boundary for zero General_outside_profile

ae1423 Profile defines outside boundary for one General_outside_profile

ae1424 Profile defines outside boundary for many General_outside_profile

ae1425 Profile defines boundary for zero General_pocket

ae1426 Profile defines boundary for one General_pocket

ae1427 Profile defines boundary for many General_pocket

4.1.143 Project_order

ae1428 Project_order (see 6.1, 6.2, 6.3)

ae1432 Project_order with project_order_id (see 6.1, 6.2, 6.3)

ae1434 Project_order with resource_acquisition_status (see 6.1, 6.2, 6.3)

ae1436 Project_order with technical_data_package_status (see 6.1, 6.2, 6.3)

ae1437 Project_order has the release_authorization defined for release by exactly one Approval (see 6.1, 6.2, 6.3)

ae1438 Project_order has the technical_data_package_status defined by zero Digital_technical_data_package_work_order (see 6.1)

ae1439 Project_order has the technical_data_package_status defined by one Digital_technical_data_package_work_order (see 6.2, 6.3)

ae1440 Project_order has the part_status defined by one Part (see 6.1, 6.2, 6.3)

- ae1441 Project_order has the part_status defined by many Part (see 6.3)
- ae1442 Project_order has the pedigree_creation_status of zero Pedigree_creation_order (see 6.1)
- ae1443 Project_order has the pedigree_creation_status of one Pedigree_creation_order (see 6.2, 6.3)
- ae1444 Project_order has the ordered_resource defined by zero Requisition (see 6.1)
- ae1445 Project_order has the ordered_resource defined by one Requisition (see 6.2)
- ae1446 Project_order has the ordered_resource defined by many Requisition (see 6.3)
- ae1447 Project_order has the resource_acquisition_status defined by zero Resource_acquisition_order (see 6.1)
- ae1448 Project_order has the resource_acquisition_status defined by one Resource_acquisition_order (see 6.2, 6.3)
- ae1449 Project_order has the shop_work_status defined by of zero Shop_work_order (see 6.1)
- ae1450 Project_order has the shop_work_status defined by of one Shop_work_order (see 6.2, 6.3)
- ae1451 Project_order defines the initiated_order by zero Customer_order (see 6.3)
- ae1452 Project_order defines the initiated_order by one Customer_order (see 6.1, 6.2, 6.3)

4.1.144 Projection

- ae1453 Projection (see 6.28)
- ae1455 Projection with projection_length (see 6.28)
- ae1456 Projection has the projection_end defined by exactly one Shape_element (see 6.28)
- ae1457 Projection the defines extended_shape for zero Tolerance_zone
- ae1458 Projection the defines extended_shape for one Tolerance_zone (see 6.28)
- ae1459 Projection the defines extended_shape for many Tolerance_zone (see 6.28)

4.1.145 Property

- ae1460 Property (see 6.1, 6.2, 6.3)
- ae1462 Property with property_name (see 6.1, 6.2, 6.3)
- ae1468 Property has the material_characteristic defined by zero Material_property (see 6.1, 6.3)
- ae1469 Property has the material_characteristic defined by one Material_property (see 6.2)
- ae1470 Property has the material_characteristic defined by many Material_property (see 6.3)
- ae1471 Property has the part_property_characteristic defined by zero Part_property (see 6.1, 6.3)
- ae1472 Property has the part_property_characteristic defined by one Part_property (see 6.2)
- ae1473 Property has the part_property_characteristic defined by many Part_property (see 6.3)
- ae1474 Property has the process_characteristic defined by zero Process_property (see 6.1, 6.3)
- ae1475 Property has the process_characteristic defined by one Process_property (see 6.2)
- ae1476 Property has the process_characteristic defined by many Process_property (see 6.3)
- ae1477 Property has the property_characteristic defined by zero Shape_aspect (see 6.1, 6.3)
- ae1478 Property has the property_characteristic defined by one Shape_aspect (see 6.2)
- ae1479 Property has the property_characteristic defined by many Shape_aspect (see 6.3)
- ae1480 Property has the property_description defined by zero Specification (see 6.1, 6.3)
- ae1481 Property has the property_description defined by one Specification (see 6.2)
- ae1482 Property has the property_description defined by many Specification (see 6.3)
- ae1483 Property has the surface_characteristic defined by zero Surface_property (see 6.1, 6.3)
- ae1484 Property has the surface_characteristic defined by one Surface_property (see 6.2)

ae1485 Property has the surface_characteristic defined by many Surface_property (see 6.3)

ae1486 Property defines the property_characteristic for exactly one Part (see 6.2, 6.3)

4.1.146 Property_parameter

ae1488 Property_parameter (see 6.2, 6.3)

ae1489 Property_parameter as Descriptive_parameter (excluded, is an supertype)

ae1490 Property_parameter as Numeric_parameter (excluded, is an supertype)

ae1491 Property_parameter with parameter_name (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1492 Property_parameter defines the property_characteristic for exactly one Process_property (see 6.3)

ae1493 Property_parameter defines the property_characteristic for exactly one Surface_property (see 6.3)

ae1494 Property_parameter defines the property_characteristic for exactly one Part_property (see 6.3)

ae1495 Property_parameters defines the property_characteristic for exactly one Material_property (see 6.2, 6.3)

4.1.147 Protrusion

ae1496 Protrusion (see 6.12)

ae1498 Protrusion has the shape_volume defined by one Shape_element (see 6.12)

ae1499 Protrusion has the shape_volume defined by many Shape_element (see 6.12)

4.1.148 Radial_dimension_tolerance

ae1500 Radial_dimension_tolerance (see 6.22)

4.1.149 Radiused_slot_end_type

ae1501 Radiused_slot_end_type (see 6.8, 6.9)

4.1.150 Rectangular_closed_pocket

ae1502 Rectangular_closed_pocket (see 6.13, 6.27)

ae1504 Rectangular_closed_pocket has a closed_boundary defined by exactly one Rectangular_closed_profile (see 6.13, 6.27)

4.1.151 Rectangular_closed_profile

ae1505 Rectangular_closed_profile (see 6.13, 6.15, 6.18, 6.19, 6.20, 6.27)

ae1509 Rectangular_closed_profile has the profile_width defined by exactly one Numeric_parameter (see 6.13, 6.15, 6.18, 6.19, 6.20, 6.27)

ae1510 Rectangular_closed_profile has the profile_length defined by exactly one Numeric_parameter (see 6.13, 6.15, 6.18, 6.19, 6.20, 6.27)

ae1982 Rectangular_closed_profile has the corner_radius defined by exactly one Numeric_parameter (see 6.13, 6.15, 6.18, 6.19, 6.20, 6.27)

ae1511 Rectangular_closed_profile identifies a boundary for zero Rectangular_closed_pocket

ae1512 Rectangular_closed_profile identifies a boundary for one Rectangular_closed_pocket

ae1513 Rectangular_closed_profile identifies a boundary for many Rectangular_closed_pocket

4.1.152 Rectangular_offset_pattern

ae1515 Rectangular_offset_pattern (see 6.18)

ae1520 Rectangular_offset_pattern has the offset_direction defined by exactly one Direction_element (see 6.18)

ae1521 Rectangular_offset_pattern has the column_index defined by exactly one Numeric_parameter (see 6.18)

ae1522 Rectangular_offset_pattern has the offset_distance defined by exactly one Numeric_parameter (see 6.18)

ae1523 Rectangular_offset_pattern has the row_index defined by exactly one Numeric_parameter (see 6.18)

ae1524 Rectangular_offset_pattern defines the relocated_base_feature for one Rectangular_pattern

ae1525 Rectangular_offset_pattern defines the relocated_base_feature for many Rectangular_pattern

4.1.153 Rectangular_omit_pattern

ae1526 Rectangular_omit_pattern (see 6.18)

ae1529 Rectangular_omit_pattern has the row_index defined by exactly one Numeric_parameter (see 6.18)

ae1530 Rectangular_omit_pattern has the column_index defined by exactly one Numeric_parameter (see 6.18)

ae1531 Rectangular_omit_pattern defines the missing_base_feature for one Rectangular_pattern

ae1532 Rectangular_omit_pattern defines the missing_base_feature for many Rectangular_pattern

4.1.154 Rectangular_open_pocket

ae1533 Rectangular_open_pocket (see 6.13)

ae1535 Rectangular_open_pocket has the open_boundary defined by exactly one Square_U_profile (see 6.13)

4.1.155 Rectangular_pattern

ae1536 Rectangular_pattern (see 6.18, 6.23)

ae1937 Rectangular_pattern with column_layout_direction (see 6.18, 6.23)

ae1545 Rectangular_pattern has the row_layout_direction defined by exactly one Direction_element (see 6.18, 6.23)

ae1546 Rectangular_pattern has the column_layout_direction defined by exactly one Direction_element (see 6.18, 6.23)

ae1547 Rectangular_pattern has the rows defined by exactly one Numeric_parameter (see 6.18, 6.23)

ae1548 Rectangular_pattern has the columns defined by exactly one Numeric_parameter (see 6.18, 6.23)

ae1549 Rectangular_pattern has the row_spacing defined by exactly one Numeric_parameter (see 6.18, 6.23)

ae1550 Rectangular_pattern has the column_spacing defined by exactly one Numeric_parameter (see 6.18, 6.23)

ae1551 Rectangular_pattern has the relocated_base_feature defined by zero Rectangular_offset_pattern (see 6.18, 6.23)

ae1552 Rectangular_pattern has the relocated_base_feature defined by one Rectangular_offset_pattern (see 6.18)

ae1553 Rectangular_pattern has the relocated_base_feature defined by many Rectangular_offset_pattern (see 6.18)

ae1554 Rectangular_pattern has the missing_base_feature defined by zero Rectangular_omit_pattern (see 6.18, 6.23)

ae1555 Rectangular_pattern has the missing_base_feature defined by one Rectangular_omit_pattern (see 6.18)

ae1556 Rectangular_pattern has the missing_base_feature defined by many Rectangular_omit_pattern (see 6.18)

4.1.156 Replicate_base

ae1557 Replicate_base (see 6.17, 6.18, 6.19, 6.23)

ae1558 Replicate_base as Machining_feature (see 6.17, 6.18, 6.19, 6.23)

ae1559 Replicate_base as Replicate_feature (see 6.17, 6.18, 6.19, 6.23)

ae1560 Replicate_base may have the base_feature defined by exactly one Machining_feature (see 6.17, 6.18, 6.19, 6.23)

ae1561 Replicate_base may have the base_feature defined by exactly one Replicate_feature (see 6.17, 6.18, 6.19, 6.23)

ae1562 Replicate_base defines the replicate_base_feature for one Replicate_feature (see 6.17, 6.18, 6.19, 6.23)

ae1563 Replicate_base defines the replicate_base_feature for many Replicate_feature (see 6.17, 6.18, 6.19, 6.23)

4.1.157 Replicate_feature

ae1564 Replicate_feature (excluded, is an abstract supertype)

ae1565 Replicate_feature as Circular_pattern (excluded, is an abstract supertype)

ae1566 Replicate_feature as General_pattern (excluded, is an abstract supertype)

ae1567 Replicate_feature as Rectangular_pattern (excluded, is an abstract supertype)

ae1570 Replicate_feature has placement defined by exactly one Orientation (see 6.17, 6.18, 6.19, 6.23)

ae1571 Replicate_feature has the replicate_base_feature defined by exactly one Replicate_base (see 6.17, 6.18, 6.19, 6.23)

ae1983 Replicate_feature defines the base_feature for zero Replicate_base

ae1572 Replicate_feature defines the base_feature for one Replicate_base

ae1573 Replicate_feature defines the base_feature for many Replicate_base

4.1.158 Requisition

ae1574 Requisition (see 6.1, 6.2, 6.3)
ae1575 Requisition as Cutting_tool_requisition (excluded, is an abstract supertype)
ae1576 Requisition as Dedicated_fixture_requisition (excluded, is an abstract supertype)
ae1577 Requisition as Machine_requisition (excluded, is an abstract supertype)
ae1578 Requisition as Material_requisition (excluded, is an abstract supertype)
ae1579 Requisition as Modular_fixture_requisition (excluded, is an abstract supertype)
ae1580 Requisition as Indirect_stock_requisition (excluded, is an abstract supertype)
ae1581 Requisition with quantity_ordered (see 6.1, 6.2, 6.3)
ae1582 Requisition with required_delivery_date (see 6.1, 6.2, 6.3)
ae1583 Requisition with requisition_date (see 6.1, 6.2, 6.3)
ae1584 Requisition with requisition_description (see 6.1, 6.2, 6.3)
ae1585 Requisition with requisition_number (see 6.1, 6.2, 6.3)
ae1586 Requisition defines the ordered_resource for exactly one Project_order (see 6.2, 6.3)

4.1.159 Resource_acquisition_order

ae1587 Resource_acquisition_order (see 6.2, 6.3)
ae1588 Resource_acquisition_order with order_id (see 6.2, 6.3)
ae1589 Resource_acquisition_order defines the resource_acquisition_order for exactly one Project_order (see 6.2, 6.3)

4.1.160 Revolved_feature

ae1590 Revolved_feature (excluded, is an abstract supertype)
ae1591 Revolved_feature as General_revolution (excluded, is an abstract supertype)
ae1592 Revolved_feature as Groove (excluded, is an abstract supertype)
ae1593 Revolved_feature as Revolved_flat (excluded, is an abstract supertype)
ae1594 Revolved_feature as Revolved_round (excluded, is an abstract supertype)
ae1598 Revolved_feature has the radius defined by exactly one Numeric_parameter (see 6.11, 6.28)
ae1599 Revolved_feature has the material_side defined by exactly one Direction_element (see 6.11, 6.28)

4.1.161 Revolved_flat

ae1600 Revolved_flat (see 6.11)
ae1601 Revolved_flat with flat_edge_shape (see 6.11)
ae1602 Revolved_flat has the flat_edge_shape defined by exactly one Linear_profile (see 6.11)

4.1.162 Revolved_round

ae1603 Revolved_round (see 6.11)

ae1605 Revolved_round has the rounded_edge_shape defined by exactly one Partial_circular_profile (see 6.11)

4.1.163 Round_hole

ae1606 Round_hole (see 6.2, 6.3, 6.4, 6.12, 6.14, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)

ae1611 Round_hole may have the bottom_condition defined by exactly one Blind_bottom_condition (see 6.4, 6.12, 6.14)

ae1612 Round_hole may have the bottom_condition defined by exactly one Through_bottom_condition (see 6.2, 6.3, 6.4, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)

ae1613 Round_hole has the diameter defined by exactly one Circular_closed_profile (see 6.2, 6.3, 6.4, 6.12, 6.14, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)

ae1614 Round_hole has the hole_depth defined by exactly one Linear_path (see 6.2, 6.3, 6.4, 6.12, 6.14, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)

ae1615 Round_hole may have the change_in_diameter defined by zero Angle_taper (see 6.2, 6.3, 6.4, 6.12, 6.14, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)

ae1616 Round_hole may have the change_in_diameter defined by one Angle_taper (see 6.4)

ae1617 Round_hole may have the change_in_diameter defined by zero Diameter_taper (see 6.4)

ae1618 Round_hole may have the change_in_diameter defined by one Diameter_taper (see 6.4)

ae1619 Round_hole defines the taper hole for zero Countersunk_hole

ae1620 Round_hole defines the taper hole for one Countersunk_hole (see 6.4)

ae1621 Round_hole defines the taper hole for many Countersunk_hole

ae1622 Round_hole defines the larger_hole for zero Counterbore_hole

ae1623 Round_hole defines the larger_hole for one Counterbore_hole (see 6.4)

ae1624 Round_hole defines the larger_hole for many Counterbore_hole

ae1625 Round_hole defines the smaller_hole for zero Counterbore_hole

ae1626 Round_hole defines the smaller_hole for one Counterbore_hole (see 6.4)

ae1627 Round_hole defines the smaller_hole for many Counterbore_hole

ae1628 Round_hole defines the constant_diameter_hole for zero Countersunk_hole

ae1629 Round_hole defines the constant_diameter_hole for one Countersunk_hole (see 6.4)

ae1630 Round_hole defines the constant_diameter_hole for many Countersunk_hole

4.1.164 Rounded_end

ae1631 Rounded_end (see 6.10)

ae1634 Rounded_end has the course_of_travel defined by exactly one Linear_path (see 6.10)

ae1635 Rounded_end has the partial_circular_boundary defined by exactly one Partial_circular_profile (see 6.10)

4.1.165 Rounded_U_profile

ae1636 Rounded_u_profile (see 6.7, 6.8)

ae1638 Rounded_u_profile has the width defined by exactly one Numeric_parameter (see 6.7, 6.8)

4.1.166 Second_chamfer_offset

ae1639 Second_chamfer_offset (excluded, is an abstract supertype)

ae1641 Second_chamfer_offset has the second_face defined by exactly one Face_shape_element (see 6.27)

ae1642 Second_chamfer_offset defines the second_face_offset for zero Chamfer

ae1643 Second_chamfer_offset defines the second_face_offset for one Chamfer

ae1644 Second_chamfer_offset defines the second_face_offset for many Chamfer

4.1.167 Second_offset

ae1645 Second_offset (see 6.27)

ae1647 Second_offset has the offset_amount defined by exactly one Numeric_parameter (see 6.27)

4.1.168 Shape

ae1648 Shape (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1652 Shape has the base_shape_definition defined by exactly one Base_shape (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1653 Shape has the Brep_form defined by zero Brep_shape_representation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1654 Shape has the Brep_form defined by one Brep_shape_representation (see 6.12)

ae1655 Shape has the Brep_form defined by many Brep_shape_representation

ae1656 Shape has the element defined by zero Shape_aspect (see 6.1, 6.2, 6.3)

ae1657 Shape has the element defined by one Shape_aspect

ae1658 Shape has the element defined by many Shape_aspect (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1659 Shape defines the physical_form for zero Part

ae1660 Shape defines the physical_form for one Part (see 6.2, 6.2)

ae1661 Shape defines the physical_form for many Part

4.1.169 Shape_aspect

ae1662 Shape_aspect (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1666 Shape_aspect has the Brep_shape defined by zero Brep_model_element (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1667 Shape_aspect has the Brep_shape defined by one Brep_model_element (see 6.5, 6.7, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)

ae1668 Shape_aspect has the Brep_shape defined by many Brep_model_element

ae1669 Shape_aspect has the Brep_form defined by zero Brep_shape_aspect_representation (see 6.2, 6.3, 6.6, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1670 Shape_aspect has the Brep_form defined by one Brep_shape_aspect_representation (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.18, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27)

ae1671 Shape_aspect has the Brep_form defined by many Brep_shape_aspect_representation

ae1672 Shape_aspect has the element defined by zero Shape_element (see 6.13)

ae1673 Shape_aspect has the element defined by one Shape_element (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

ae1674 Shape_aspect defines the path for zero Distance_along_curve_tolerance

ae1675 Shape_aspect defines the path for one Distance_along_curve_tolerance

ae1676 Shape_aspect defines the path for many Distance_along_curve_tolerance

ae1677 Shape_aspect defines the property_characteristic for zero Property (see 6.2)

ae1678 Shape_aspect defines the property_characteristic for one Property (see 6.2, 6.3)

ae1679 Shape_aspect defines the property_characteristic for many Property

ae1680 Shape_aspect defines the element for exactly one Shape (see 6.4)

ae1681 Shape_aspect defines the applied_shape for zero Geometric_tolerance

ae1682 Shape_aspect defines the applied_shape for one Geometric_tolerance

ae1683 Shape_aspect defines the applied_shape for many Geometric_tolerance

4.1.170 Shape_element

ae1684 Shape_element (excluded, is an abstract supertype)

ae1685 Shape_element as Direction_element (excluded, is an abstract supertype)

ae1686 Shape_element as Face_shape_element (excluded, is an abstract supertype)

ae1687 Shape_element as Location_element (excluded, is an abstract supertype)

ae1688 Shape_element as Manufacturing_feature (excluded, is an abstract supertype)

ae1689 Shape_element as Path_element (excluded, is an abstract supertype)

ae1690 Shape_element defines the element for exactly one Shape_aspect (see 6.2)

ae1691 Shape_element defines the origin_shape for zero Location_tolerance

ae1692 Shape_element defines the origin_shape for one Location_tolerance

ae1693 Shape_element defines the origin_shape for many Location_tolerance

ae1694 Shape_element defines the first_element for zero Tolerance_zone_definition

ae1695 Shape_element defines the first_element for one Tolerance_zone_definition

ae1696 Shape_element defines the first_element for many Tolerance_zone_definition

ae1697 Shape_element defines the termination_shape for zero Location_tolerance

ae1698 Shape_element defines the termination_shape for one Location_tolerance

ae1699 Shape_element defines the termination_shape for many Location_tolerance

ae1700 Shape_element defines the applied_to_shape for zero Marking

ae1701 Shape_element defines the applied_to_shape for one Marking

ae1702 Shape_element defines the applied_to_shape for many Marking
 ae1703 Shape_element defines the shape_volume for zero Protrusion
 ae1704 Shape_element defines the shape_volume for one Protrusion
 ae1705 Shape_element defines the shape_volume for many Protrusion
 ae1706 Shape_element defines the datum_representation for zero Datum_feature
 ae1707 Shape_element defines the datum_representation for one Datum_feature
 ae1708 Shape_element defines the datum_representation for many Datum_feature
 ae1709 Shape_element defines the projection_end for zero Projection
 ae1710 Shape_element defines the projection_end for one Projection
 ae1711 Shape_element defines the projection_end for many Projection
 ae1712 Shape_element defines the applied_shape for zero Knurl
 ae1713 Shape_element defines the applied_shape for one Knurl
 ae1714 Shape_element defines the applied_shape for many Knurl
 ae1715 Shape_element defines the applied_shape for zero Thread
 ae1716 Shape_element defines the applied_shape for one Thread
 ae1717 Shape_element defines the applied_shape for many Thread
 ae1718 Shape_element defines the second_element for zero Tolerance_zone_definition
 ae1719 Shape_element defines the second_element for one Tolerance_zone_definition
 ae1720 Shape_element defines the second_element for many Tolerance_zone_definition
 ae1721 Shape_element defines the area_shape by zero Shape_element
 ae1722 Shape_element defines the area_shape by one Shape_element
 ae1723 Shape_element defines the area_shape by many Shape_element
 ae1724 Shape_element defines the applied_shape for zero Size_tolerance
 ae1725 Shape_element defines the applied_shape for one Size_tolerance
 ae1726 Shape_element defines the applied_shape for many Size_tolerance

4.1.171 Shop_work_order

ae1727 Shop_work_order (see 6.2, 6.3)
 ae1728 Shop_work_order with order_id (see 6.2, 6.3)
 ae1729 Shop_work_order defines the shop_work_status for exactly one Project_order (see 6.2, 6.3)

4.1.172 Size_tolerance

ae1730 Size_tolerance (excluded, is an abstract supertype)
 ae1731 Size_tolerance as Angular_size_dimension_tolerance (excluded, is an abstract supertype)
 ae1732 Size_tolerance as Curved_dimension_tolerance (excluded, is an abstract supertype)
 ae1733 Size_tolerance as Diameter_dimension_tolerance (excluded, is an abstract supertype)
 ae1734 Size_tolerance as Radial_dimension_tolerance (excluded, is an abstract supertype)
 ae1736 Size_tolerance has the applied_shape defined exactly one Shape_element (see 6.22)

4.1.173 Slot

ae1737 Slot (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1742 Slot has the slot_depth defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1743 Slot has the swept_shape defined by exactly one Open_profile (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1744 Slot has the course_of_travel defined by exactly one Path (see 6.7, 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1745 Slot has the end_conditions defined by exactly two Slot_end_type (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

4.1.174 Slot_end_type

ae1746 Slot_end_type (excluded, is an abstract supertype)

ae1747 Slot_end_type as Flat_slot_end_type (excluded, is an abstract supertype)

ae1748 Slot_end_type as Open_slot_end_type (excluded, is an abstract supertype)

ae1749 Slot_end_type as Radiused_slot_end_type (excluded, is an abstract supertype)

ae1750 Slot_end_type as Woodruff_slot_end_type (excluded, is an abstract supertype)

ae1751 Slot_end_type with first_or_second = FIRST (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1752 Slot_end_type with first_or_second = SECOND (see 6.7, 6.8, 6.9, 6.15, 6.21, 6.22, 6.24, 6.26)

ae1753 Slot_end_type defines the end_condition for zero Slot

ae1754 Slot_end_type defines the end_condition for one Slot

ae1755 Slot_end_type defines the end_condition for many Slot

4.1.175 Specification

ae1756 Specification (see 6.1, 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

ae1758 Specification with specification_class (see 6.1, 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

ae1759 Specification with specification_description (see 6.1, 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

ae1760 Specification with specification_id (see 6.1, 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

ae1761 Specification has the constraint defined by zero Specification_usage_constraint (see 6.1, 6.3, 6.14, 6.15, 6.16, 6.22)

ae1762 Specification has the constraint defined by one Specification_usage_constraint (see 6.2)

ae1763 Specification has the constrain defined by many Specification_usage_constraint (see 6.3)

ae1764 Specification defines the material_specification for exactly one Material (see 6.2)

ae1765 Specification defines documentation for zero Externally_defined_tolerance_value

ae1766 Specification defines documentation for one Externally_defined_tolerance_value

ae1767 Specification defines documentation for many Externally_defined_tolerance_value

ae1768 Specification defines the documentation for zero Catalogue_marking

ae1769 Specification defines the documentation for one Catalogue_marking

ae1770 Specification defines the documentation for many Catalogue_marking

ae1771 Specification defines the property_definition for exactly one Property (see 6.2)

ae1772 Specification defines the documentation for zero Catalogue_knurl

ae1773 Specification defines the documentation for one Catalogue_knurl
 ae1774 Specification defines the documentation for many Catalogue_knurl
 ae1775 Specification defines the documentation for zero Catalogue_thread
 ae1776 Specification defines the documentation for one Catalogue_thread
 ae1777 Specification defines the documentation for many Catalogue_thread

4.1.176 Specification_usage_constraint

ae1778 Specification_usage_constraint (see 6.2, 6.3)
 ae1779 Specification_usage_constraint with class_id (see 6.2, 6.3)
 ae1780 Specification_usage_constraint with element (see 6.2, 6.3)
 ae1781 Specification_usage_constraint defines the constrain for exactly one Specification (see 6.2, 6.3)

4.1.177 Spherical_cap

ae1782 Spherical_cap (see 6.11)
 ae1785 Spherical_cap has the internal_angle defined by exactly one Numeric_parameter (see 6.11)
 ae1786 Spherical_cap has the radius defined by exactly one Numeric_parameter (see 6.11)

4.1.178 Spherical_hole_bottom

ae1787 Spherical_hole_bottom (see 6.4)
 ae1789 Spherical_hole_bottom has the radius defined by exactly one Numeric_parameter (see 6.4)

4.1.179 Square_U_profile

ae1790 Square_u_profile (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1796 Square_u_profile has the first_angle defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1797 Square_u_profile has the first_radius defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1798 Square_u_profile has the second_angle defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1799 Square_u_profile has the second_radius defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1800 Square_u_profile has the width defined by exactly one Numeric_parameter (see 6.7, 6.8, 6.9, 6.13, 6.15, 6.21, 6.22, 6.24, 6.26, 6.28)
 ae1801 Square_u_profile defines the open_boundary for zero Rectangular_open_pocket
 ae1802 Square_u_profile defines the open_boundary for one Rectangular_open_pocket
 ae1803 Square_u_profile defines the open_boundary for many Rectangular_open_pocket

4.1.180 Step

ae1804 Step (see 6.10)

ae1807 Step has the removal_boundary by exactly one Vee_profile (see 6.10)

ae1808 Step has the course_of_travel defined by exactly one Linear_path (see 6.10)

4.1.181 Straight_knurl

ae1809 Straight_knurl (see 6.16)

4.1.182 Straightness_tolerance

ae1810 Straightness_tolerance (see 6.24, 6.28)

ae1812 Straightness_tolerance with segment_size (see 6.24, 6.28)

ae1813 Straightness_tolerance has the affected_plane defined by zero Orientation

ae1814 Straightness_tolerance has the affected_plane defined by one Orientation (see 6.24, 6.28)

4.1.183 Surface_profile_tolerance

ae1815 Surface_profile_tolerance (see 6.23)

ae1817 Surface_profile_tolerance has the geometric_reference defined by zero Datum

ae1818 Surface_profile_tolerance has the geometric_reference defined by one Datum (see 6.23)

ae1819 Surface_profile_tolerance has the geometric_reference defined by two Datum

ae1820 Surface_profile_tolerance has the geometric_reference defined by three Datum

4.1.184 Surface_property

ae1821 Surface_property (see 6.2, 6.3)

ae1823 Surface_property with surface_finish (see 6.2, 6.3)

ae1824 Surface_property defines the property_characteristic for zero Property_parameter (see 6.2)

ae1825 Surface_property defines the property_characteristic for one Property_parameter (see 6.3)

ae1826 Surface_property defines the property_characteristic for many Property_parameter (see 6.3)

4.1.185 Symmetry_tolerance

ae1827 Symmetry_tolerance (see 6.24)

ae1830 Symmetry_tolerance has the geometric_reference defined by one Datum (see 6.24)

ae1831 Symmetry_tolerance has the geometric_reference defined by two Datum (see 6.24)

ae1832 Symmetry_tolerance has the geometric_reference defined by three Datum (see 6.24)

ae1833 Symmetry_tolerance has the affected_plane defined by zero Orientation (see 6.24)

ae1834 Symmetry_tolerance has the affected_plane defined by one Orientation (see 6.24)

4.1.186 Target_area

ae1835 Target_area (see 6.23, 6.24, 6.26)

ae1837 Target_area has the area_shape defined by exactly one Shape_element (see 6.23, 6.24, 6.26)

4.1.187 Target_circle

ae1838 Target_circle (see 6.26)

ae1839 Target_circle with target_diameter (see 6.26)

4.1.188 Target_line

ae1840 Target_line (see 6.24, 6.26)

ae1841 Target_line with target_length (see 6.24, 6.26)

4.1.189 Target_point

ae1842 Target_point (see 6.26)

4.1.190 Target_rectangle

ae1843 Target_rectangle (see 6.26)

ae1844 Target_rectangle with target_length (see 6.26)

ae1845 Target_rectangle with target_width (see 6.26)

4.1.191 Tee_profile

ae1846 Tee_profile (see 6.7, 6.8)

ae1856 Tee_profile has the cross_bar_depth defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1857 Tee_profile has the cross_bar_width defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1858 Tee_profile has the depth defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1859 Tee_profile has the first_angle defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1860 Tee_profile has the first_offset defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1861 Tee_profile has the second_angle defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1862 Tee_profile has the second_offset defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1863 Tee_profile has the radius defined by exactly one Numeric_parameter (see 6.7, 6.8)

ae1864 Tee_profile has the width defined by exactly one Numeric_parameter (see 6.7, 6.8)

4.1.192 Thread

ae1865 Thread (excluded, is an abstract supertype)

ae1866 Thread as Catalogue_thread (excluded, is an abstract supertype)

ae1867 Thread as Defined_thread (excluded, is an abstract supertype)

- ae1869 Thread with english_or_metric (see 6.14)
- ae1870 Thread with inner_or_outer_thread (see 6.14)
- ae1873 Thread has the qualifier defined by exactly one Descriptive_parameter (see 6.14)
- ae1874 Thread has the partial_profile defined by zero Partial_area_definition (see 6.14)
- ae1875 Thread has the partial_profile defined by one Partial_area_definition (see 6.14)
- ae1876 Thread has the applied_shape defined by exactly one Shape_element (see 6.14)

4.1.193 Through_bottom_condition

- ae1877 Through_bottom_condition (see 6.2, 6.3, 6.4, 6.17, 6.18, 6.19, 6.22, 6.23, 6.24, 6.25)
- ae1878 Through_bottom_condition defines the bottom_condition for zero Round_hole
- ae1879 Through_bottom_condition defines the bottom_condition for one Round_hole (see 6.2, 6.3)
- ae1880 Through_bottom_condition defines the bottom_condition for many Round_hole (see 6.4)

4.1.194 Through_pocket_bottom_condition

- ae1881 Through_pocket_bottom_condition (see 6.13, 6.20, 6.27)

4.1.195 Tolerance_limit

- ae1882 Tolerance_limit (see 6.22)
- ae1883 Tolerance_limit with limit_qualifier (see 6.22)
- ae1884 Tolerance_limit defines the values for zero Tolerance_value
- ae1885 Tolerance_limit defines the values for one Tolerance_value
- ae1886 Tolerance_limit defines the values for many Tolerance_value
- ae1887 Tolerance_limit defines the implicit_tolerance for zero Numeric_parameter_with_tolerance
- ae1888 Tolerance_limit defines the implicit_tolerance for one Numeric_parameter_with_tolerance
- ae1889 Tolerance_limit defines the implicit_tolerance for many Numeric_parameter_with_tolerance

4.1.196 Tolerance_range

- ae1890 Tolerance_range (see 6.22)
- ae1891 Tolerance_range with lower_range (see 6.22)
- ae1892 Tolerance_range with significant_digits (see 6.22)
- ae1893 Tolerance_range with upper_range (see 6.22)
- ae1894 Tolerance_range defines the define_values for zero Tolerance_value
- ae1895 Tolerance_range defines the define_values for one Tolerance_value
- ae1896 Tolerance_range defines the define_values for many Tolerance_value

4.1.197 Tolerance_value

- ae1897 Tolerance_value (see 6.22, 6.25)
- ae1898 Tolerance_value with defined_value
- ae1899 Tolerance_value with envelope (see 6.22, 6.25)

ae1900 Tolerance_value has the defined_value by zero Externally_defined_tolerance_value
 ae1901 Tolerance_value has the defined_value by one Externally_defined_tolerance_value
 ae1902 Tolerance_value has the defined_value by zero Plus_minus_value
 ae1903 Tolerance_value has the defined_value by one Plus_minus_value
 ae1904 Tolerance_value has the defined_value by zero Tolerance_limit
 ae1905 Tolerance_value has the defined_value by one Tolerance_limit
 ae1906 Tolerance_value has the defined_value by zero Tolerance_ranges
 ae1907 Tolerance_value has the defined_value by one Tolerance_ranges
 ae1908 Tolerance_value defines the limit for zero Dimensional_tolerance
 ae1909 Tolerance_value defines the limit for one Dimensional_tolerance
 ae1910 Tolerance_value defines the limit for many Dimensional_tolerance

4.1.198 Tolerance_zone

ae1911 Tolerance_zone (see 6.24, 6.28)
 ae1912 Tolerance_zone with common_zone (see 6.24, 6.28)
 ae1914 Tolerance_zone with form_type (see 6.24, 6.28)
 ae1916 Tolerance_zone has the zone_definition defined by exactly one Tolerance_zone_definition (see 6.24, 6.28)
 ae1917 Tolerance_zone has the extended_shape defined by zero Projection
 ae1918 Tolerance_zone has the extended_shape defined by one Projection
 ae1919 Tolerance_zone has the extended_shape defined by two Projection
 ae1920 Tolerance_zone has the extended_shape defined by three Projection
 ae1921 Tolerance_zone defines the zone_definition for zero Geometric_tolerance
 ae1922 Tolerance_zone defines the zone_definition for one Geometric_tolerance
 ae1923 Tolerance_zone defines the zone_definition for many Geometric_tolerance

4.1.199 Tolerance_zone_definition

ae1924 Tolerance_zone_definition (see 6.24, 6.28)
 ae1927 Tolerance_zone_definition has the first_element defined by exactly one Shape_element (see 6.24, 6.28)
 ae1928 Tolerance_zone_definition has the second_element defined by zero Shape_element (see 6.24, 6.28)
 ae1929 Tolerance_zone_definition has the second_element defined by one Shape_element (see 6.28)
 ae1930 Tolerance_zone_definition defines the zone_definition for zero Tolerance_zone
 ae1931 Tolerance_zone_definition defines the zone_definition for one Tolerance_zone
 ae1932 Tolerance_zone_definition defines the zone_definition for many Tolerance_zone

4.1.200 Total_runout_tolerance

ae1933 Total_runout_tolerance (see 6.24)
 ae1935 Total_runout_tolerance with runout_angle (see 6.24)
 ae1936 Total_runout_tolerance has the geometric_reference defined by one Datum (see 6.24)
 ae1937 Total_runout_tolerance has the geometric_reference defined by two Datum

4.1.201 Transition_feature

ae1938 Transition_feature (excluded, is an abstract supertype)
ae1939 Transition_feature as Chamfer (excluded, is an abstract supertype)
ae1940 Transition_feature as Edge_round (excluded, is an abstract supertype)
ae1941 Transition_feature as Fillet (excluded, is an abstract supertype)
ae1942 Transition_feature defines the element for zero Compound_feature_element
ae1943 Transition_feature defines the element for one Compound_feature_element
ae1944 Transition_feature defines the element for many Compound_feature_element

4.1.202 Turned_knurl

ae1945 Turned_knurl (excluded, is an abstract supertype)
ae1946 Turned_knurl as Diagonal_knurl (excluded, is an abstract supertype)
ae1947 Turned_knurl as Diamond_knurl (excluded, is an abstract supertype)
ae1948 Turned_knurl as Straight_knurl (excluded, is an abstract supertype)
ae1955 Turned_knurl has the tooth_depth defined by zero Numeric_parameter (see 6.16)
ae1956 Turned_knurl has the tooth_depth defined by one Numeric_parameter (see 6.16)
ae1957 Turned_knurl has the root_fillet defined by zero Numeric_parameter (see 6.16)
ae1958 Turned_knurl has the root_fillet defined by one Numeric_parameter (see 6.16)
ae1959 Turned_knurl has the major_diameter defined by exactly one Numeric_parameter (see 6.16)
ae1960 Turned_knurl has the nominal_diameter defined by exactly one Numeric_parameter (see 6.16)
ae1961 Turned_knurl has the number_of_teeth defined by zero Numeric_parameter (see 6.16)
ae1962 Turned_knurl has the number_of_teeth defined by one Numeric_parameter (see 6.16)
ae1963 Turned_knurl has the diametral_pitch defined by exactly one Numeric_parameter (see 6.16)

4.1.203 Vee_profile

ae1964 Vee_profile (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.16, 6.24)
ae1968 Vee_profile has the profile_radius defined by exactly one Numeric_parameter (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.16, 6.24)
ae1969 Vee_profile has the profile_angle defined by exactly one Numeric_parameter (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.16, 6.24)
ae1970 Vee_profile has the tilt_angle defined by exactly one Numeric_parameter (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.16, 6.24)
ae1971 Vee_profile defines the V-shape_boundary for zero Outer_diameter_to_shoulder
ae1972 Vee_profile defines the V-shape_boundary for one Outer_diameter_to_shoulder
ae1973 Vee_profile defines the V-shape_boundary for many Outer_diameter_to_shoulder
ae1974 Vee_profile defines the removal_boundary for zero Step
ae1975 Vee_profile defines the removal_boundary for one Step
ae1976 Vee_profile defines the removal_boundary for many Step

4.1.204 Woodruff_slot_end_type

ae1977 Woodruff_slot_end_type (see 6.7)

ae1979 Woodruff_slot_end_type has the radius defined by exactly one Numeric_parameter (see 6.7)

4.2 AIM test purposes

AIM test purposes are identified by the prefix “aim” in the test purpose identifier. Each test purpose derived from the AIM EXPRESS shall be interpreted as given in the following statement: the postprocessor shall accept the input in accordance with the AIM EXPRESS structure corresponding to this test purpose. This implies that the semantics of the application element represented by the AIM element are preserved by the IUT between the input and output of a test according to the reference path specified in the mapping table of the AP. This also implies no violations of any constraints (e.g., where rules or global rules) that apply to the AIM element. AIM test purposes apply to the input specifications of postprocessor test cases only. AIM test purposes are derived directly from the expanded EXPRESS listing contained in annex A of ISO 10303-224 as follows:

- AIM entities. A test purpose derived from an AIM entity is a simple statement of the entity name.
- AIM entity attributes. A test purpose derived from an AIM entity attribute is a statement of the AIM entity with a given attribute.

4.2.1 Action

aim1 Action

4.2.2 Action_assignment

aim2 Action_assignment

4.2.3 Action_directive

aim3 Action_directive (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim4 Action_directive with requests of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim5 Action_directive with requests of many elements

4.2.4 Action_method

aim6 Action_method (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.5 Action_relationship

aim7 Action_relationship (see 6.2, 6.3)

4.2.6 Action_request_solution

aim8 Action_request_solution (see 6.1, 6.2, 6.3)

4.2.7 Action_request_status

aim9 Action_request_status

4.2.8 Action_status

aim10 Action_status (see 6.2, 6.3)

4.2.9 Address

aim11 Address

aim12 Address with internal_location

aim13 Address with internal_location not present

aim14 Address with street_number

aim15 Address with street_number not present

aim16 Address with street

aim17 Address with street not present

aim18 Address with postal_box

aim19 Address with postal_box not present

aim20 Address with town

aim21 Address with town not present

aim22 Address with region

aim23 Address with region not present

aim24 Address with postal_code

aim25 Address with postal_code not present

aim26 Address with country

aim27 Address with country not present

aim28 Address with facsimile_number

aim29 Address with facsimile_number not present

aim30 Address with telephone_number

aim31 Address with telephone_number not present

aim32 Address with electronic_mail_address

aim33 Address with electronic_mail_address not present

aim34 Address with telex_number

aim35 Address with telex_number not present

4.2.10 Advanced_brep_shape_representation

aim36 Advanced_brep_shape_representation (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim37 Advanced_brep_shape_representation with items of one element (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim38 Advanced_brep_shape_representation with items of many elements

4.2.11 Advanced_face

aim39 Advanced_face (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim40 Advanced_face with bounds of one element (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim41 Advanced_face with bounds of many elements (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim42 Advanced_face with same_sense = TRUE (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim43 Advanced_face with same_sense = FALSE

4.2.12 Angular_location

aim44 Angular_location (see 6.24, 6.25)

aim45 Angular_location with angle_selection = equal

aim46 Angular_location with angle_selection = large

aim47 Angular_location with angle_selection = small

4.2.13 Angular_size

aim48 Angular_size (see 6.22)

aim49 Angular_size with angle_selection = equal

aim50 Angular_size with angle_selection = large

aim51 Angular_size with angle_selection = small

4.2.14 Angularity_tolerance

aim52 Angularity_tolerance

aim53 Angularity_tolerance with datum_system of one element

aim54 Angularity_tolerance with datum_system of many elements

4.2.15 Application_context

aim55 Application_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.16 Application_context_element

aim56 Application_context_element

4.2.17 Application_protocol_definition

aim57 Application_protocol_definition (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.18 Applied_area

aim58 Applied_area (see 6.14, 6.16)

aim59 Applied_area with product_definitional = TRUE (see 6.14, 6.16)

aim60 Applied_area with product_definitional = FALSE

aim61 Applied_area with product_definitional = UNKNOWN

4.2.19 Approval

aim62 Approval (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.20 Approval_date_time

aim63 Approval_date_time (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.21 Approval_person_organization

aim64 Approval_person_organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.22 Approval_relationship

aim65 Approval_relationship

4.2.23 Approval_role

aim66 Approval_role (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.26, 6.27, 6.28)

4.2.24 Approval_status

aim67 Approval_status (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27, 6.28)

4.2.25 Axis1_placement

aim68 Axis1_placement (see 6.24)

aim69 Axis1_placement with axis (see 6.24)

aim70 Axis1_placement with axis not present

4.2.26 Axis2_placement_2d

aim71 Axis2_placement_2d

aim72 Axis2_placement_2d with ref_direction

aim73 Axis2_placement_2d with ref_direction not present

4.2.27 Axis2_placement_3d

aim74 Axis2_placement_3d (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim75 Axis2_placement_3d with axis (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim76 Axis2_placement_3d with axis not present

aim77 Axis2_placement_3d with ref_direction (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim78 Axis2_placement_3d with ref_direction not present

4.2.28 B_spline_curve

aim79 B_spline_curve

aim80 B_spline_curve with control_points_list of many elements

aim81 B_spline_curve with curve_form = polyline_form

aim82 B_spline_curve with curve_form = circular_arc

aim83 B_spline_curve with curve_form = elliptic_arc

aim84 B_spline_curve with curve_form = parabolic_arc

aim85 B_spline_curve with curve_form = hyperbolic_arc

aim86 B_spline_curve with curve_form = unspecified

aim87 B_spline_curve with closed_curve = TRUE
 aim88 B_spline_curve with closed_curve = FALSE
 aim89 B_spline_curve with closed_curve = UNKNOWN
 aim90 B_spline_curve with self_intersect = TRUE
 aim91 B_spline_curve with self_intersect = FALSE
 aim92 B_spline_curve with self_intersect = UNKNOWN

4.2.29 B_spline_curve_with_knots

aim93 B_spline_curve_with_knots (see 6.5, 6.7, 6.13, 6.21, 6.23, 6.24, 6.27)
 aim94 B_spline_curve_with_knots with control_points_list of many elements (see 6.5, 6.7, 6.13, 6.21, 6.23, 6.24, 6.27)
 aim95 B_spline_curve_with_knots with curve_form = polyline_form
 aim96 B_spline_curve_with_knots with curve_form = circular_arc
 aim97 B_spline_curve_with_knots with curve_form = elliptic_arc
 aim98 B_spline_curve_with_knots with curve_form = parabolic_arc
 aim99 B_spline_curve_with_knots with curve_form = hyperbolic_arc
 aim100 B_spline_curve_with_knots with curve_form = unspecified
 aim101 B_spline_curve_with_knots with closed_curve = TRUE (see 6.5, 6.7, 6.13, 6.21, 6.23, 6.24, 6.27)
 aim102 B_spline_curve_with_knots with closed_curve = FALSE
 aim103 B_spline_curve_with_knots with closed_curve = UNKNOWN
 aim104 B_spline_curve_with_knots with self_intersect = TRUE
 aim105 B_spline_curve_with_knots with self_intersect = FALSE
 aim106 B_spline_curve_with_knots with self_intersect = UNKNOWN
 aim107 B_spline_curve_with_knots with knot_multiplicities of many elements (see 6.5, 6.7, 6.13, 6.21, 6.23, 6.24, 6.27)
 aim108 B_spline_curve_with_knots with knots of many elements (see 6.5, 6.7, 6.13, 6.23, 6.24, 6.27)
 aim109 B_spline_curve_with_knots with knot_spec = uniform_knots
 aim110 B_spline_curve_with_knots with knot_spec = unspecified
 aim111 B_spline_curve_with_knots with knot_spec = quasi_uniform_knots
 aim112 B_spline_curve_with_knots with knot_spec = piecewise_bezier_knots

4.2.30 B_spline_surface

aim113 B_spline_surface
 aim114 B_spline_surface with control_points_list of many elements
 aim115 B_spline_surface with surface_form = plane_surf
 aim116 B_spline_surface with surface_form = cylindrical_surf
 aim117 B_spline_surface with surface_form = conical_surf
 aim118 B_spline_surface with surface_form = spherical_surf
 aim119 B_spline_surface with surface_form = toroidal_surf
 aim120 B_spline_surface with surface_form = surf_of_revolution
 aim121 B_spline_surface with surface_form = ruled_surf
 aim122 B_spline_surface with surface_form = generalised_cone
 aim123 B_spline_surface with surface_form = quadric_surf

aim124 B_spline_surface with surface_form = surf_of_linear_extrusion
 aim125 B_spline_surface with surface_form = unspecified
 aim126 B_spline_surface with u_closed = TRUE
 aim127 B_spline_surface with u_closed = FALSE
 aim128 B_spline_surface with u_closed = UNKNOWN
 aim129 B_spline_surface with v_closed = TRUE
 aim130 B_spline_surface with v_closed = FALSE
 aim131 B_spline_surface with v_closed = UNKNOWN
 aim132 B_spline_surface with self_intersect = TRUE
 aim133 B_spline_surface with self_intersect = FALSE
 aim134 B_spline_surface with self_intersect = UNKNOWN

4.2.31 B_spline_surface_with_knots

aim135 B_spline_surface_with_knots (see 6.27)
 aim136 B_spline_surface_with_knots with control_points_list of many elements (see 6.27)
 aim137 B_spline_surface_with_knots with surface_form = plane_surf
 aim138 B_spline_surface_with_knots with surface_form = cylindrical_surf
 aim139 B_spline_surface_with_knots with surface_form = conical_surf
 aim140 B_spline_surface_with_knots with surface_form = spherical_surf
 aim141 B_spline_surface_with_knots with surface_form = toroidal_surf
 aim142 B_spline_surface_with_knots with surface_form = surf_of_revolution
 aim143 B_spline_surface_with_knots with surface_form = ruled_surf
 aim144 B_spline_surface_with_knots with surface_form = generalised_cone
 aim145 B_spline_surface_with_knots with surface_form = quadric_surf
 aim146 B_spline_surface_with_knots with surface_form = surf_of_linear_extrusion
 aim147 B_spline_surface_with_knots with surface_form = unspecified
 aim148 B_spline_surface_with_knots with u_closed = TRUE
 aim149 B_spline_surface_with_knots with u_closed = FALSE
 aim150 B_spline_surface_with_knots with u_closed = UNKNOWN
 aim151 B_spline_surface_with_knots with v_closed = TRUE (see 6.27)
 aim152 B_spline_surface_with_knots with v_closed = FALSE
 aim153 B_spline_surface_with_knots with v_closed = UNKNOWN
 aim154 B_spline_surface_with_knots with self_intersect = TRUE
 aim155 B_spline_surface_with_knots with self_intersect = FALSE
 aim156 B_spline_surface_with_knots with self_intersect = UNKNOWN
 aim157 B_spline_surface_with_knots with u_multiplicities of many elements (see 6.27)
 aim158 B_spline_surface_with_knots with v_multiplicities of many elements (see 6.27)
 aim159 B_spline_surface_with_knots with u_knots of many elements (see 6.27)
 aim160 B_spline_surface_with_knots with v_knots of many elements
 aim161 B_spline_surface_with_knots with knot_spec = uniform_knots
 aim162 B_spline_surface_with_knots with knot_spec = unspecified
 aim163 B_spline_surface_with_knots with knot_spec = quasi_uniform_knots
 aim164 B_spline_surface_with_knots with knot_spec = piecewise_bezier_knots

4.2.32 Bezier_curve

aim165 Bezier_curve
aim166 Bezier_curve with control_points_list of many elements
aim167 Bezier_curve with curve_form = polyline_form
aim168 Bezier_curve with curve_form = circular_arc
aim169 Bezier_curve with curve_form = elliptic_arc (see 6.27)
aim170 Bezier_curve with curve_form = parabolic_arc
aim171 Bezier_curve with curve_form = hyperbolic_arc
aim172 Bezier_curve with curve_form = unspecified
aim173 Bezier_curve with closed_curve = TRUE
aim174 Bezier_curve with closed_curve = FALSE
aim175 Bezier_curve with closed_curve = UNKNOWN
aim176 Bezier_curve with self_intersect = TRUE
aim177 Bezier_curve with self_intersect = FALSE
aim178 Bezier_curve with self_intersect = UNKNOWN

4.2.33 Bezier_surface

aim179 Bezier_surface
aim180 Bezier_surface with control_points_list of many elements
aim181 Bezier_surface with surface_form = plane_surf
aim182 Bezier_surface with surface_form = cylindrical_surf
aim183 Bezier_surface with surface_form = conical_surf
aim184 Bezier_surface with surface_form = spherical_surf
aim185 Bezier_surface with surface_form = toroidal_surf
aim186 Bezier_surface with surface_form = surf_of_revolution
aim187 Bezier_surface with surface_form = ruled_surf
aim188 Bezier_surface with surface_form = generalised_cone
aim189 Bezier_surface with surface_form = quadric_surf
aim190 Bezier_surface with surface_form = surf_of_linear_extrusion
aim191 Bezier_surface with surface_form = unspecified
aim192 Bezier_surface with u_closed = TRUE
aim193 Bezier_surface with u_closed = FALSE
aim194 Bezier_surface with u_closed = UNKNOWN
aim195 Bezier_surface with v_closed = TRUE
aim196 Bezier_surface with v_closed = FALSE
aim197 Bezier_surface with v_closed = UNKNOWN
aim198 Bezier_surface with self_intersect = TRUE
aim199 Bezier_surface with self_intersect = FALSE
aim200 Bezier_surface with self_intersect = UNKNOWN

4.2.34 Block_shape_representation

aim201 Block_shape_representation (see 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.26, 6.27)

aim202 Block_shape_representation with items of one element

aim203 Block_shape_representation with items of many elements (see 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.25, 6.26, 6.27)

4.2.35 Boss

aim204 Boss (see 6.5, 6.12)

4.2.36 Boss_top

aim205 Boss_top (see 6.5, 6.12)

aim206 Boss_top with product_definitional = TRUE (see 6.5, 6.12)

aim207 Boss_top with product_definitional = FALSE

aim208 Boss_top with product_definitional = UNKNOWN

4.2.37 Bounded_curve

aim209 Bounded_curve

4.2.38 Bounded_surface

aim210 Bounded_surface (see 6.27)

4.2.39 Brep_with_voids

aim211 Brep_with_voids

aim212 Brep_with_voids with voids of one element

aim213 Brep_with_voids with voids of many elements

4.2.40 Calendar_date

aim214 Calendar_date (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.41 Cartesian_point

aim215 Cartesian_point (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim216 Cartesian_point with coordinates of one element

aim217 Cartesian_point with coordinates of many elements (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.42 Cartesian_transformation_operator

aim218 Cartesian_transformation_operator

aim219 Cartesian_transformation_operator with axis1

aim220 Cartesian_transformation_operator with axis1 not present

aim221 Cartesian_transformation_operator with axis2

aim222 Cartesian_transformation_operator with axis2 not present

aim223 Cartesian_transformation_operator with scale

aim224 Cartesian_transformation_operator with scale not present

4.2.43 Cartesian_transformation_operator_3d

aim225 Cartesian_transformation_operator_3d

aim226 Cartesian_transformation_operator_3d with axis1

aim227 Cartesian_transformation_operator_3d with axis1 not present

aim228 Cartesian_transformation_operator_3d with axis2

aim229 Cartesian_transformation_operator_3d with axis2 not present

aim230 Cartesian_transformation_operator_3d with scale

aim231 Cartesian_transformation_operator_3d with scale not present

aim232 Cartesian_transformation_operator_3d with axis3

aim233 Cartesian_transformation_operator_3d with axis3 not present

4.2.44 Chamfer

aim234 Chamfer (see 6.27)

aim235 Chamfer with product_definitional = TRUE (see 6.27)

aim236 Chamfer with product_definitional = FALSE

aim237 Chamfer with product_definitional = UNKNOWN

4.2.45 Chamfer_offset

aim238 Chamfer_offset (see 6.27)

aim239 Chamfer_offset with product_definitional = TRUE

aim240 Chamfer_offset with product_definitional = FALSE

aim241 Chamfer_offset with product_definitional = UNKNOWN

4.2.46 Characterized_object

aim242 Characterized_object (see 6.6, 6.15, 6.17, 6.19)

4.2.47 Circle

aim243 Circle (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27, 6.28)

4.2.48 Circular_closed_profile

aim244 Circular_closed_profile (see 6.2, 6.3, 6.4, 6.5, 6.12, 6.17, 6.18, 6.19, 6.20, 6.22, 6.24)

aim245 Circular_closed_profile with product_definitional = TRUE (see 6.4, 6.5, 6.12, 6.17, 6.18, 6.19, 6.20, 6.22, 6.24)

aim246 Circular_closed_profile with product_definitional = FALSE (see 6.2, 6.3)

aim247 Circular_closed_profile with product_definitional = UNKNOWN

4.2.49 Circular_pattern

aim248 Circular_pattern (see 6.17)

aim249 Circular_pattern with product_definitional = TRUE (see 6.17)

aim250 Circular_pattern with product_definitional = FALSE

aim251 Circular_pattern with product_definitional = UNKNOWN

4.2.50 Closed_path_profile

aim252 Closed_path_profile (see 6.5, 6.12, 6.13, 6.20)

aim253 Closed_path_profile with product_definitional = TRUE (see 6.5, 6.12, 6.13, 6.20)

aim254 Closed_path_profile with product_definitional = FALSE

aim255 Closed_path_profile with product_definitional = UNKNOWN

4.2.51 Closed_shell

aim256 Closed_shell (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim257 Closed_shell with cfs_faces of one element

aim258 Closed_shell with cfs_faces of many elements (see 6.6, 6.8, 6.9, 6.10, 6.11, 6.12, 6.14, 6.15, 6.16, 6.19, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.52 Composite_curve

aim259 Composite_curve

aim260 Composite_curve with segments of one element

aim261 Composite_curve with segments of many elements

aim262 Composite_curve with self_intersect = TRUE

aim263 Composite_curve with self_intersect = FALSE

aim264 Composite_curve with self_intersect = UNKNOWN

4.2.53 Composite_curve_on_surface

aim265 Composite_curve_on_surface

aim266 Composite_curve_on_surface with segments of one element

aim267 Composite_curve_on_surface with segments of many elements

aim268 Composite_curve_on_surface with self_intersect = TRUE

aim269 Composite_curve_on_surface with self_intersect = FALSE

aim270 Composite_curve_on_surface with self_intersect = UNKNOWN

4.2.54 Composite_curve_segment

aim271 Composite_curve_segment

aim272 Composite_curve_segment with transition = discontinuous

aim273 Composite_curve_segment with transition = continuous

aim274 Composite_curve_segment with transition = cont_same_gradient

aim275 Composite_curve_segment with transition = cont_same_gradient_same_curvature

aim276 Composite_curve_segment with same_sense = TRUE

aim277 Composite_curve_segment with same_sense = FALSE

4.2.55 Composite_hole

aim278 Composite_hole (see 6.4)

aim279 Composite_hole with product_definitional = TRUE

aim280 Composite_hole with product_definitional = FALSE

aim281 Composite_hole with product_definitional = UNKNOWN

4.2.56 Composite_machining_feature

aim282 Composite_machining_feature

aim283 Composite_machining_feature with product_definitional = TRUE

aim284 Composite_machining_feature with product_definitional = FALSE

aim285 Composite_machining_feature with product_definitional = UNKNOWN

4.2.57 Composite_shape_aspect

aim286 Composite_shape_aspect

aim287 Composite_shape_aspect with product_definitional = TRUE

aim288 Composite_shape_aspect with product_definitional = FALSE

aim289 Composite_shape_aspect with product_definitional = UNKNOWN

4.2.58 Conic

aim290 Conic

4.2.59 Conical_surface

aim291 Conical_surface (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.11, 6.22)

4.2.60 Connected_face_set

aim292 Connected_face_set

aim293 Connected_face_set with cfs_faces of one element

aim294 Connected_face_set with cfs_faces of many elements

4.2.61 Context_dependent_unit

aim295 Context_dependent_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.62 Conversion_based_unit

aim296 Conversion_based_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.63 Curve

aim297 Curve

4.2.64 Cylindrical_shape_representation

aim298 Cylindrical_shape_representation (see 6.1, 6.2, 6.3, 6.6, 6.11, 6.24, 6.28)

aim299 Cylindrical_shape_representation with items of one element (see 6.3)

aim300 Cylindrical_shape_representation with items of many elements (see 6.1, 6.2, 6.6, 6.11, 6.24, 6.28)

4.2.65 Cylindrical_surface

aim301 Cylindrical_surface (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.27, 6.28)

4.2.66 Date

aim302 Date

4.2.67 Date_assignment

aim303 Date_assignment

4.2.68 Date_role

aim304 Date_role (see 6.1, 6.2, 6.3)

4.2.69 Datum

aim305 Datum (see 6.23, 6.24, 6.26)

aim306 Datum with product_definitional = TRUE (see 6.23, 6.24, 6.26)

aim307 Datum with product_definitional = FALSE (see 6.23, 6.24, 6.26)

aim308 Datum with product_definitional = UNKNOWN

4.2.70 Datum_feature

aim309 Datum_feature (see 6.23, 6.24, 6.26)

aim310 Datum_feature with product_definitional = TRUE (see 6.23, 6.24, 6.26)

aim311 Datum_feature with product_definitional = FALSE

aim312 Datum_feature with product_definitional = UNKNOWN

4.2.71 Datum_reference

aim313 Datum_reference (see 6.23, 6.24, 6.26)

4.2.72 Datum_target

aim314 Datum_target (see 6.23)

aim315 Datum_target_feature with product_definitional = TRUE (see 6.23)

aim316 Datum_target_feature with product_definitional = FALSE

aim317 Datum_target_feature with product_definitional = UNKNOWN

4.2.73 Definitional_representation

aim319 Definitional_representation with items of one element

aim320 Definitional_representation with items of many elements

4.2.74 Degenerate_toroidal_surface

aim321 Degenerate_toroidal_surface

aim322 Degenerate_toroidal_surface with select_outer = TRUE

aim323 Degenerate_toroidal_surface with select_outer = FALSE

4.2.75 Descriptive_representation_Item

aim324 Descriptive_representation_Item (see 6.14, 6.15, 6.16)

4.2.76 Dimensional_characteristic_representation

aim325 Dimensional_characteristic_representation (see 6.22, 6.24, 6.25)

4.2.77 Dimensional_exponents

aim326 Dimensional_exponents (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.78 Dimensional_location

aim327 Dimensional_location (see 6.24)

4.2.79 Dimensional_location_with_path

aim328 Dimensional_location_with_path (see 6.25)

4.2.80 Dimensional_size

aim329 Dimensional_size (see 6.22, 6.24)

4.2.81 Dimensional_size_with_path

aim330 Dimensional_size_with_path

4.2.82 Directed_action

aim331 Directed_action (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.83 Directed_dimensional_location

aim332 Directed_dimensional_location (see 6.25)

4.2.84 Direction

aim333 Direction (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim334 Direction with direction_ratios of many elements (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.85 Direction_shape_representation

aim335 Direction_shape_representation (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.17, 6.18, 6.20, 6.21, 6.22, 6.24, 6.26)

aim336 Direction_shape_representation with items of one element (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.9, 6.10, 6.12, 6.13, 6.17, 6.18, 6.20, 6.21, 6.22, 6.24, 6.26)

aim337 Direction_shape_representation with items of many elements

4.2.86 Document

aim338 Document (see 6.15, 6.16)

4.2.87 Document_reference

aim339 Document_reference

4.2.88 Document_relationship

aim340 Document_relationship

4.2.89 Document_type

aim341 Document_type (see 6.1, 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

4.2.90 Document_usage_constraint

aim342 Document_usage_constraint (see 6.2, 6.3, 6.22)

4.2.91 Document_with_class

aim343 Document_with_class (see 6.1, 6.2, 6.3, 6.14, 6.22)

4.2.92 Edge

aim344 Edge

4.2.93 Edge_curve

aim345 Edge_curve (see 6.4, 6.5, 6.6, 6.7, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim346 Edge_curve with same_sense = TRUE (see 6.4, 6.5, 6.6, 6.7, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim347 Edge_curve with same_sense = FALSE

4.2.94 Edge_loop

aim348 Edge_loop (see 6.4, 6.5, 6.6, 6.7, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim349 Edge_loop with edge_list of one element (see 6.15, 6.16)

aim350 Edge_loop with edge_list of many elements

4.2.95 Edge_round

aim351 Edge_round (see 6.27)

aim352 Edge_round with product_definitional = TRUE (see 6.27)

aim353 Edge_round with product_definitional = FALSE

aim354 Edge_round with product_definitional = UNKNOWN

4.2.96 Elementary_surface

aim355 Elementary_surface

4.2.97 Ellipse

aim356 Ellipse

4.2.98 Executed_action

aim357 Executed_action

4.2.99 External_source

aim358 External_source

4.2.100 Externally_defined_feature_definition

aim359 Externally_defined_feature_definition

4.2.101 Externally_defined_Item

aim360 Externally_defined_Item

4.2.102 Face

aim361 Face

aim362 Face with bounds of one element

aim363 Face with bounds of many elements

4.2.103 Face_bound

aim364 Face_bound (see 6.4, 6.5, 6.6)

aim365 Face_bound with orientation = TRUE (see 6.4, 6.5, 6.6)

aim366 Face_bound with orientation = FALSE

4.2.104 Face_outer_bound

aim367 Face_outer_bound

aim368 Face_outer_bound with orientation = TRUE

aim369 Face_outer_bound with orientation = FALSE

4.2.105 Face_shape_representation

aim370 Face_shape_representation (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim371 Face_shape_representation with items of one element (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim372 Face_shape_representation with items of many elements (see 6.5, 6.13, 6.23, 6.24, 6.28)

4.2.106 Face_surface

aim373 Face_surface

aim374 Face_surface with bounds of one element

aim375 Face_surface with bounds of many elements

aim376 Face_surface with same_sense = TRUE

aim377 Face_surface with same_sense = FALSE

4.2.107 Feature_based_pp_action_assignment

aim378 Feature_based_pp_action_assignment (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim379 Feature_based_pp_action_assignment with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim380 Feature_based_pp_action_assignment with items of many elements (see 6.3)

4.2.108 Feature_based_pp_action_request_assignment

aim381 Feature_based_pp_action_request_assignment (see 6.1, 6.2, 6.3)

aim382 Feature_based_pp_action_request_assignment with items of one element (see 6.1, 6.2)

aim383 Feature_based_pp_action_request_assignment with items of many elements (see 6.3)

4.2.109 Feature_based_pp_approval_assignment

aim384 Feature_based_pp_approval_assignment (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim385 Feature_based_pp_approval_assignment with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim386 Feature_based_pp_approval_assignment with items of many elements (see 6.2, 6.3)

4.2.110 Feature_based_pp_date_assignment

aim387 Feature_based_pp_date_assignment (see 6.1, 6.2, 6.3)

aim388 Feature_based_pp_date_assignment with items of one element (see 6.1, 6.2, 6.3)

aim389 Feature_based_pp_date_assignment with items of many elements (see 6.1, 6.2, 6.3)

4.2.111 Feature_based_pp_document_reference

aim390 Feature_based_pp_document_reference (see 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

aim391 Feature_based_pp_document_reference with items of one element (see 6.2, 6.3, 6.14, 6.15, 6.16, 6.22)

aim392 Feature_based_pp_document_reference with items of many elements (see 6.2, 6.3, 6.14)

4.2.112 Feature_based_pp_organization_assignment

aim393 Feature_based_pp_organization_assignment (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim394 Feature_based_pp_organization_assignment with items of one element (see 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim395 Feature_based_pp_organization_assignment with items of many elements (see 6.2, 6.3)

4.2.113 Feature_based_pp_person_and_organization_assignment

aim396 Feature_based_pp_person_and_organization_assignment (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim397 Feature_based_pp_person_and_organization_assignment with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim398 Feature_based_pp_person_and_organization_assignment with items of many elements (see 6.2, 6.3)

4.2.114 Feature_based_pp_security_classification_assignment

aim399 Feature_based_pp_security_classification_assignment (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim400 Feature_based_pp_security_classification_assignment with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim401 Feature_based_pp_security_classification_assignment with items of many elements

4.2.115 Feature_component_definition

aim402 Feature_component_definition (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.13, 6.16, 6.17, 6.18, 6.19, 6.21, 6.22, 6.24, 6.26)

4.2.116 Feature_component_relationship

aim403 Feature_component_relationship (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26)

4.2.117 Feature_definition

aim404 Feature_definition (see 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.28)

4.2.118 Feature_pattern

aim405 Feature_pattern (see 6.19)

aim406 Feature_pattern with product_definitional = TRUE (see 6.19)

aim407 Feature_pattern with product_definitional = FALSE

aim408 Feature_pattern with product_definitional = UNKNOWN

4.2.119 Fillet

aim409 Fillet

aim410 Fillet with product_definitional = TRUE

aim411 Fillet with product_definitional = FALSE

aim412 Fillet with product_definitional = UNKNOWN

4.2.120 Flat_face

aim413 Flat_face (see 6.10)

4.2.121 Functionally_defined_transformation

aim414 Functionally_defined_transformation

4.2.122 Geometric_representation_context

aim415 Geometric_representation_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.26, 6.27, 6.28)

4.2.123 Geometric_representation_Item

aim416 Geometric_representation_Item

4.2.124 Geometric_tolerance

aim417 Geometric_tolerance (see 6.23, 6.24)

4.2.125 Geometric_tolerance_relationship

aim418 Geometric_tolerance_relationship

4.2.126 Geometric_tolerance_with_datum_reference

aim422 Geometric_tolerance_with_datum_reference (see 6.23, 6.24)

aim423 Geometric_tolerance_with_datum_reference with datum_system of one element (see 6.23, 6.24)

aim424 Geometric_tolerance_with_datum_reference with datum_system of many elements

4.2.127 Geometric_tolerance_with_defined_unit

aim425 Geometric_tolerance_with_defined_unit

4.2.128 Global_uncertainty_assigned_context

aim426 Global_uncertainty_assigned_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim427 Global_uncertainty_assigned_context with uncertainty of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim428 Global_uncertainty_assigned_context with uncertainty of many elements

4.2.129 Global_unit_assigned_context

aim429 Global_unit_assigned_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim430 Global_unit_assigned_context with units of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim431 Global_unit_assigned_context with units of many elements

4.2.130 Hole_bottom

aim432 Hole_bottom (see 6.2, 6.3, 6.4, 6.12, 6.17, 6.18, 6.19, 6.22, 6.24)

aim433 Hole_bottom with product_definitional = TRUE (see 6.2, 6.3, 6.4, 6.12, 6.17, 6.18, 6.19, 6.22, 6.24)

aim434 Hole_bottom with product_definitional = FALSE (see 6.2, 6.3)

aim435 Hole_bottom with product_definitional = UNKNOWN

4.2.131 Hyperbola

aim436 Hyperbola

4.2.132 Instanced_feature

aim437 Instanced_feature

aim438 Instanced_feature with product_definitional = TRUE

aim439 Instanced_feature with product_definitional = FALSE

aim440 Instanced_feature with product_definitional = UNKNOWN

4.2.133 Length_measure_with_unit

aim441 Length_measure_with_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.10, 6.12, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.134 Length_unit

aim442 Length_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.135 Limits_and_fits

aim443 Limits_and_fits

4.2.136 Line

aim444 Line (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.137 Linear_profile

aim445 Linear_profile (see 6.10, 6.11)

4.2.138 Linear_profile_tolerance

aim446 Linear_profile_tolerance (see 6.23)

4.2.139 Location_shape_representation

aim447 Location_shape_representation (see 6.5, 6.12, 6.22, 6.25)

aim448 Location_shape_representation with items of one element (see 6.5, 6.12, 6.22, 6.25)

aim449 Location_shape_representation with items of many elements

4.2.140 Loop

aim450 Loop

4.2.141 Machining_feature

aim451 Machining_feature

aim452 Machining_feature with product_definitional = TRUE

aim453 Machining_feature with product_definitional = FALSE

aim454 Machining_feature with product_definitional = UNKNOWN

4.2.142 Make_from_usage_option

aim455 Make_from_usage_option (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.143 Manifold_solid_brep

aim456 Manifold_solid_brep (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.144 Mapped_Item

aim457 Mapped_Item

4.2.145 Marking

aim458 Marking (see 6.15)

4.2.146 Material_designation

aim459 Material_designation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.147 Material_property

aim460 Material_property (see 6.1, 6.2, 6.3)

4.2.148 Measure_qualification

aim461 Measure_qualification

aim462 Measure_qualification with qualifiers of one element

aim463 Measure_qualification with qualifiers of many elements

4.2.149 Measure_representation_Item

aim464 Measure_representation_Item (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.150 Measure_with_unit

aim465 Measure_with_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.9, 6.10, 6.12, 6.18, 6.19)

4.2.151 Modified_geometric_tolerance

aim466 Modified_geometric_tolerance (see 6.23, 6.24)

aim467 Modified_geometric_tolerance with modifier = maximum_material_condition

aim468 Modified_geometric_tolerance with modifier = least_material_condition

aim469 Modified_geometric_tolerance with modifier = regardless_of_feature_size

4.2.152 Modified_pattern

aim470 Modified_pattern (see 6.17, 6.18)

aim471 Modified_pattern with product_definitional = TRUE (see 6.17, 6.18)

aim472 Modified_pattern with product_definitional = FALSE

aim473 Modified_pattern with product_definitional = UNKNOWN

4.2.153 Named_unit

aim474 Named_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.154 Ngon_closed_profile

aim475 Ngon_closed_profile (see 6.20)

aim476 Ngon_closed_profile with product_definitional = TRUE (see 6.20)

aim477 Ngon_closed_profile with product_definitional = FALSE

aim478 Ngon_closed_profile with product_definitional = UNKNOWN

4.2.155 Ngon_shape_representation

aim479 Ngon_shape_representation

aim480 Ngon_shape_representation with items of one element

aim481 Ngon_shape_representation with items of many elements

4.2.156 Open_path_profile

aim482 Open_path_profile (see 6.7, 6.11)

aim483 Open_path_profile with product_definitional = TRUE (see 6.7, 6.11)

aim484 Open_path_profile with product_definitional = FALSE

aim485 Open_path_profile with product_definitional = UNKNOWN

4.2.157 Open_shell

aim486 Open_shell

aim487 Open_shell with cfs_faces of one element

aim488 Open_shell with cfs_faces of many elements

4.2.158 Ordered_part

aim489 Ordered_part (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim491 Ordered_part with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim492 Ordered_part with items of many elements

4.2.159 Ordinal_date

aim493 Ordinal_date

4.2.160 Organization

aim494 Organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim495 Organization with id (see 6.1, 6.2, 6.3)

aim496 Organization with id not present (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.161 Organization_assignment

aim497 Organization_assignment

4.2.162 Organization_relationship

aim498 Organization_relationship

4.2.163 Organization_role

aim499 Organization_role (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.164 Organizational_address

aim500 Organizational_address (see 6.1, 6.2, 6.3)

aim501 Organizational_address with internal_location

aim502 Organizational_address with internal_location not present (see 6.1, 6.2, 6.3)

aim503 Organizational_address with street_number (see 6.1, 6.2, 6.3)

aim504 Organizational_address with street_number not present

aim505 Organizational_address with street (see 6.1, 6.2, 6.3)

aim506 Organizational_address with street not present

aim507 Organizational_address with postal_box

aim508 Organizational_address with postal_box not present (see 6.1, 6.2, 6.3)
 aim509 Organizational_address with town (see 6.1, 6.2, 6.3)
 aim510 Organizational_address with town not present
 aim511 Organizational_address with region (see 6.1, 6.2, 6.3)
 aim512 Organizational_address with region not present
 aim513 Organizational_address with postal_code (see 6.1, 6.2, 6.3)
 aim514 Organizational_address with postal_code not present
 aim515 Organizational_address with country (see 6.1, 6.2, 6.3)
 aim516 Organizational_address with country not present
 aim517 Organizational_address with facsimile_number
 aim518 Organizational_address with facsimile_number not present (see 6.1, 6.2, 6.3)
 aim519 Organizational_address with telephone_number
 aim520 Organizational_address with telephone_number not present (see 6.1, 6.2, 6.3)
 aim521 Organizational_address with electronic_mail_address
 aim522 Organizational_address with electronic_mail_address not present (see 6.1, 6.2, 6.3)
 aim523 Organizational_address with telex_number
 aim524 Organizational_address with telex_number not present (see 6.1, 6.2, 6.3)
 aim525 Organizational_address with organizations of one element (see 6.1, 6.2, 6.3)
 aim526 Organizational_address with organizations of many elements

4.2.165 Organizational_project

aim527 Organizational_project
 aim528 Organizational_project with responsible_organizations of one element
 aim529 Organizational_project with responsible_organizations of many elements

4.2.166 Oriented_closed_shell

aim530 Oriented_closed_shell
 aim531 Oriented_closed_shell with cfs_faces of one element
 aim532 Oriented_closed_shell with cfs_faces of many elements
 aim533 Oriented_closed_shell with orientation = TRUE
 aim534 Oriented_closed_shell with orientation = FALSE

4.2.167 Oriented_edge

aim535 Oriented_edge (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 aim536 Oriented_edge with orientation = TRUE (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)
 aim537 Oriented_edge with orientation = FALSE

4.2.168 Oriented_face

aim538 Oriented_face

aim539 Oriented_face with bounds of one element

aim540 Oriented_face with bounds of many elements

aim541 Oriented_face with orientation = TRUE

aim542 Oriented_face with orientation = FALSE

4.2.169 Oriented_open_shell

aim543 Oriented_open_shell

aim544 Oriented_open_shell with cfs_faces of one element

aim545 Oriented_open_shell with cfs_faces of many elements

aim546 Oriented_open_shell with orientation = TRUE

aim547 Oriented_open_shell with orientation = FALSE

4.2.170 Oriented_path

aim548 Oriented_path

aim549 Oriented_path with edge_list of one element

aim550 Oriented_path with edge_list of many elements

aim551 Oriented_path with orientation = TRUE

aim552 Oriented_path with orientation = FALSE

4.2.171 Outer_round

aim553 Outer_round (see 6.6)

4.2.172 Outside_profile

aim554 Outside_profile (see 6.12, 6.18, 6.19)

4.2.173 Parabola

aim555 Parabola

4.2.174 Parallelism_tolerance

aim556 Parallelism_tolerance (see 6.24)

4.2.175 Parametric_representation_context

aim557 Parametric_representation_context

4.2.176 Partial_circular_profile

aim558 Partial_circular_profile (see 6.7, 6.8, 6.10, 6.11)

aim559 Partial_circular_profile with product_definitional = TRUE (see 6.7, 6.8, 6.10, 6.11)

aim560 Partial_circular_profile with product_definitional = FALSE

aim561 Partial_circular_profile with product_definitional = UNKNOWN

4.2.177 Path

aim562 Path

aim563 Path with edge_list of one element

aim564 Path with edge_list of many elements

4.2.178 Path_feature_component

aim565 Path_feature_component (see 6.2, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.12, 6.13, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.26)

aim566 Path_feature_component with product_definitional = TRUE (see 6.5, 6.7, 6.8, 6.9, 6.12, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26)

aim567 Path_feature_component with product_definitional = FALSE (see 6.2, 6.3)

aim568 Path_feature_component with product_definitional = UNKNOWN

4.2.179 Path_shape_representation

aim569 Path_shape_representation (see 6.7, 6.11, 6.12, 6.13, 6.20, 6.21)

aim570 Path_shape_representation with items of one element (see 6.13, 6.21)

aim571 Path_shape_representation with items of many elements (see 6.7, 6.11, 6.12, 6.20, 6.21)

4.2.180 Pattern_offset_membership

aim572 Pattern_offset_membership (see 6.17, 6.18)

4.2.181 Pattern_omit_membership

aim573 Pattern_omit_membership (see 6.17, 6.18)

4.2.182 Pcurve

aim574 Pcurve

4.2.183 Perpendicularity_tolerance

aim575 Perpendicularity_tolerance (see 6.24)

4.2.184 Person

aim576 Person (see 6.1, 6.2, 6.3, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim577 Person with last_name (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim578 Person with last_name not present

aim579 Person with first_name (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim580 Person with first_name not present

aim581 Person with middle_names of one element

aim582 Person with middle_names of many elements

aim583 Person with middle_names not present (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim584 Person with prefix_titles of one element

aim585 Person with prefix_titles of many elements

aim586 Person with prefix_titles not present (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim587 Person with suffix_titles of one element

aim588 Person with suffix_titles of many elements

aim589 Person with suffix_titles not present (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.185 Person_and_organization

aim590 Person_and_organization (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim591 Person_and_organization_assignment

aim592 Person_and_organization_role (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.186 Personal_address

aim593 Personal_address (see 6.1, 6.2, 6.3)

aim594 Personal_address with internal_location

aim595 Personal_address with internal_location not present (see 6.1, 6.2, 6.3)
aim596 Personal_address with street_number (see 6.1, 6.2, 6.3)
aim597 Personal_address with street_number not present
aim598 Personal_address with street (see 6.1, 6.2, 6.3)
aim599 Personal_address with street not present
aim600 Personal_address with postal_box
aim601 Personal_address with postal_box not present (see 6.1, 6.2, 6.3)
aim602 Personal_address with town (see 6.1, 6.2, 6.3)
aim603 Personal_address with town not present
aim604 Personal_address with region (see 6.1, 6.2, 6.3)
aim605 Personal_address with region not present
aim606 Personal_address with postal_code (see 6.1, 6.2, 6.3)
aim607 Personal_address with postal_code not present
aim608 Personal_address with country (see 6.1, 6.2, 6.3)
aim609 Personal_address with country not present
aim610 Personal_address with facsimile_number
aim611 Personal_address with facsimile_number not present (see 6.1, 6.2, 6.3)
aim612 Personal_address with telephone_number (see 6.1, 6.2, 6.3)
aim613 Personal_address with telephone_number not present
aim614 Personal_address with electronic_mail_address
aim615 Personal_address with electronic_mail_address not present (see 6.1, 6.2, 6.3)
aim616 Personal_address with telex_number
aim617 Personal_address with telex_number not present (see 6.1, 6.2, 6.3)
aim618 Personal_address with people of one element (see 6.1, 6.2, 6.3)
aim619 Personal_address with people of many elements

4.2.187 Placed_datum_target_feature

aim620 Placed_datum_target_feature (see 6.26)

4.2.188 Placement

aim621 Placement

4.2.189 Plane

aim622 Plane (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.190 Plane_angle_measure_with_unit

aim623 Plane_angle_measure_with_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.191 Plane_angle_unit

aim624 Plane_angle_unit (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.192 Plus_minus_tolerance

aim625 Plus_minus_tolerance

4.2.193 Pocket

aim626 Pocket (see 6.13, 6.20)

4.2.194 Pocket_bottom

aim627 Pocket_bottom (see 6.13, 6.20)

aim628 Pocket_bottom with product_definitional = TRUE (see 6.13, 6.20)

aim629 Pocket_bottom with product_definitional = FALSE

aim630 Pocket_bottom with product_definitional = UNKNOWN

4.2.195 Point

aim631 Point

4.2.196 Polyline

aim632 Polyline

aim633 Polyline with points of many elements

4.2.197 Position_tolerance

aim634 Position_tolerance (see 6.24)

4.2.198 Precision_qualifier

aim635 Precision_qualifier (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.199 Product

aim636 Product (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim637 Product with frame_of_reference of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim638 Product with frame_of_reference of many elements

4.2.200 Product_context

aim639 Product_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.201 Product_definition

aim640 Product_definition (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.202 Product_definition_context

aim641 Product_definition_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.203 Product_definition_formation

aim642 Product_definition_formation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.204 Product_definition_relationship

aim643 Product_definition_relationship

4.2.205 Product_definition_shape

aim644 Product_definition_shape (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.206 Product_definition_usage

aim645 Product_definition_usage

4.2.207 Product_definition_with_associated_documents

aim646 Product_definition_with_associated_documents (see 6.2, 6.3)

aim647 Product_definition_with_associated_documents with documentation_ids of one element (see 6.2, 6.3)

aim648 Product_definition_with_associated_documents with documentation_ids of many elements (see 6.3)

4.2.208 Property_definition

aim649 Property_definition (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.209 Property_definition_relationship

aim650 Property_definition_relationship (see 6.1, 6.2, 6.3)

4.2.210 Property_definition_representation

aim651 Property_definition_representation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.211 Protrusion

aim652 Protrusion (see 6.12)

4.2.212 Qualified_representation_Item

aim653 Qualified_representation_Item

aim654 Qualified_representation_Item with qualifiers of one element

aim655 Qualified_representation_Item with qualifiers of many elements

4.2.213 Qualitative_uncertainty

aim656 Qualitative_uncertainty

4.2.214 Quasi_uniform_curve

aim657 Quasi_uniform_curve

aim658 Quasi_uniform_curve with control_points_list of many elements

aim659 Quasi_uniform_curve with curve_form = polyline_form

aim660 Quasi_uniform_curve with curve_form = circular_arc

aim661 Quasi_uniform_curve with curve_form = elliptic_arc

aim662 Quasi_uniform_curve with curve_form = parabolic_arc

aim663 Quasi_uniform_curve with curve_form = hyperbolic_arc

aim664 Quasi_uniform_curve with curve_form = unspecified

aim665 Quasi_uniform_curve with closed_curve = TRUE

aim666 Quasi_uniform_curve with closed_curve = FALSE

aim667 Quasi_uniform_curve with closed_curve = UNKNOWN

aim668 Quasi_uniform_curve with self_intersect = TRUE

aim668 Quasi_uniform_curve with self_intersect = FALSE
aim669 Quasi_uniform_curve with self_intersect = UNKNOWN

4.2.215 Quasi_uniform_surface

aim670 Quasi_uniform_surface
aim671 Quasi_uniform_surface with control_points_list of many elements
aim672 Quasi_uniform_surface with surface_form = plane_surf
aim673 Quasi_uniform_surface with surface_form = cylindrical_surf
aim674 Quasi_uniform_surface with surface_form = conical_surf
aim675 Quasi_uniform_surface with surface_form = spherical_surf
aim676 Quasi_uniform_surface with surface_form = toroidal_surf
aim677 Quasi_uniform_surface with surface_form = surf_of_revolution
aim678 Quasi_uniform_surface with surface_form = ruled_surf
aim679 Quasi_uniform_surface with surface_form = generalised_cone
aim680 Quasi_uniform_surface with surface_form = quadric_surf
aim681 Quasi_uniform_surface with surface_form = surf_of_linear_extrusion
aim682 Quasi_uniform_surface with surface_form = unspecified
aim683 Quasi_uniform_surface with u_closed = TRUE
aim684 Quasi_uniform_surface with u_closed = FALSE
aim685 Quasi_uniform_surface with u_closed = UNKNOWN
aim686 Quasi_uniform_surface with v_closed = TRUE
aim687 Quasi_uniform_surface with v_closed = FALSE
aim688 Quasi_uniform_surface with v_closed = UNKNOWN
aim689 Quasi_uniform_surface with self_intersect = TRUE
aim690 Quasi_uniform_surface with self_intersect = FALSE
aim691 Quasi_uniform_surface with self_intersect = UNKNOWN

4.2.216 Rational_b_spline_curve

aim692 Rational_b_spline_curve
aim693 Rational_b_spline_curve with control_points_list of many elements
aim694 Rational_b_spline_curve with curve_form = polyline_form
aim695 Rational_b_spline_curve with curve_form = circular_arc
aim696 Rational_b_spline_curve with curve_form = elliptic_arc
aim697 Rational_b_spline_curve with curve_form = parabolic_arc
aim698 Rational_b_spline_curve with curve_form = hyperbolic_arc
aim699 Rational_b_spline_curve with curve_form = unspecified
aim700 Rational_b_spline_curve with closed_curve = TRUE
aim701 Rational_b_spline_curve with closed_curve = FALSE
aim702 Rational_b_spline_curve with closed_curve = UNKNOWN
aim703 Rational_b_spline_curve with self_intersect = TRUE
aim704 Rational_b_spline_curve with self_intersect = FALSE
aim705 Rational_b_spline_curve with self_intersect = UNKNOWN
aim706 Rational_b_spline_curve with weights_data of many elements

4.2.217 Rational_b_spline_surface

aim707 Rational_b_spline_surface

aim708 Rational_b_spline_surface with control_points_list of many elements

aim709 Rational_b_spline_surface with surface_form = plane_surf

aim710 Rational_b_spline_surface with surface_form = cylindrical_surf

aim711 Rational_b_spline_surface with surface_form = conical_surf

aim712 Rational_b_spline_surface with surface_form = spherical_surf

aim713 Rational_b_spline_surface with surface_form = toroidal_surf

aim714 Rational_b_spline_surface with surface_form = surf_of_revolution

aim715 Rational_b_spline_surface with surface_form = ruled_surf

aim716 Rational_b_spline_surface with surface_form = generalised_cone

aim717 Rational_b_spline_surface with surface_form = quadric_surf

aim718 Rational_b_spline_surface with surface_form = surf_of_linear_extrusion

aim719 Rational_b_spline_surface with surface_form = unspecified

aim720 Rational_b_spline_surface with u_closed = TRUE

aim721 Rational_b_spline_surface with u_closed = FALSE

aim722 Rational_b_spline_surface with u_closed = UNKNOWN

aim723 Rational_b_spline_surface with v_closed = TRUE

aim724 Rational_b_spline_surface with v_closed = FALSE

aim725 Rational_b_spline_surface with v_closed = UNKNOWN

aim726 Rational_b_spline_surface with self_intersect = TRUE

aim727 Rational_b_spline_surface with self_intersect = FALSE

aim728 Rational_b_spline_surface with self_intersect = UNKNOWN

aim729 Rational_b_spline_surface with weights_data of many elements

4.2.218 Rectangular_closed_profile

aim730 Rectangular_closed_profile (see 6.13, 6.20)

aim731 Rectangular_closed_profile with product_definitional = TRUE (see 6.13, 6.20)

aim732 Rectangular_closed_profile with product_definitional = FALSE

aim733 Rectangular_closed_profile with product_definitional = UNKNOWN

4.2.219 Rectangular_pattern

aim734 Rectangular_pattern (see 6.18)

aim735 Rectangular_pattern with product_definitional = TRUE (see 6.18)

aim736 Rectangular_pattern with product_definitional = FALSE

aim737 Rectangular_pattern with product_definitional = UNKNOWN

4.2.220 Referenced_modified_datum

aim738 Referenced_modified_datum (see 6.23, 6.24, 6.26)

aim739 Referenced_modified_datum with modifier = maximum_material_condition

aim740 Referenced_modified_datum with modifier = least_material_condition

aim741 Referenced_modified_datum with modifier = regardless_of_feature_size

4.2.221 Removal_volume

aim742 Removal_volume (see 6.10)

4.2.222 Replicate_feature

aim743 Replicate_feature

aim744 Replicate_feature with product_definitional = TRUE

aim745 Replicate_feature with product_definitional = FALSE

aim746 Replicate_feature with product_definitional = UNKNOWN

4.2.223 Representation

aim747 Representation (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27)

aim748 Representation with items of one element (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim749 Representation with items of many elements (see 6.2, 6.3)

4.2.224 Representation_context

aim750 Representation_context (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27)

4.2.225 Representation_Item

aim751 Representation_Item

4.2.226 Representation_map

aim752 Representation_map

4.2.227 Revolved_profile

aim753 Revolved_profile (see 6.11)

4.2.228 Round_hole

aim754 Round_hole (see 6.4)

4.2.229 Rounded_end

aim755 Rounded_end (see 6.10)

4.2.230 Rounded_u_profile

aim756 Rounded_u_profile (see 6.7, 6.8, 6.11)

aim757 Rounded_u_profile with product_definitional = TRUE (see 6.7, 6.8, 6.11)

aim758 Rounded_u_profile with product_definitional = FALSE

aim759 Rounded_u_profile with product_definitional = UNKNOWN

4.2.231 Security_classification

aim760 Security_classification (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.232 Security_classification_assignment

aim761 Security_classification_assignment

4.2.233 Security_classification_level

aim762 Security_classification_level (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27)

4.2.234 Shape_aspect

aim763 Shape_aspect (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

aim764 Shape_aspect with product_definitional = TRUE (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27)

aim765 Shape_aspect with product_definitional = FALSE

aim766 Shape_aspect with product_definitional = UNKNOWN

4.2.235 Shape_aspect_relationship

aim767 Shape_aspect_relationship (see 6.14, 6.15, 6.23, 6.24, 6.26, 6.27)

4.2.236 Shape_defining_relationship

aim768 Shape_defining_relationship (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.28)

4.2.237 Shape_definition_representation

aim769 Shape_definition_representation (see 6.1, 6.3, 6.2, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.23, 6.24, 6.25, 6.26, 6.27))

4.2.238 Shape_dimension_representation

aim770 Shape_dimension_representation (see 6.22, 6.25)

aim771 Shape_dimension_representation with items of one element (see 6.22, 6.25)

aim772 Shape_dimension_representation with items of many elements (see 6.22)

4.2.239 Shape_representation

aim773 Shape_representation (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27, 6.28)

aim774 Shape_representation with items of one element (see 6.4, 10, 6.11, 6.26)

aim775 Shape_representation with items of many elements (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.28)

4.2.240 Shape_representation_with_parameters

aim776 Shape_representation_with_parameters (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27, 6.28)

aim777 Shape_representation_with_parameters with items of one element (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27)

aim778 Shape_representation_with_parameters with items of many elements (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27, 6.28)

4.2.241 Si_unit

aim779 Si_unit (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27, 6.28)

aim780 Si_unit with prefix = exa (see 6.27)

aim781 Si_unit with prefix = peta

aim782 Si_unit with prefix = tera

aim783 Si_unit with prefix = giga

aim784 Si_unit with prefix = mega

aim785 Si_unit with prefix = kilo

aim786 Si_unit with prefix = hecto
aim787 Si_unit with prefix = deca
aim788 Si_unit with prefix = deci
aim789 Si_unit with prefix = centi
aim790 Si_unit with prefix = milli
aim791 Si_unit with prefix = micro
aim792 Si_unit with prefix = nano
aim793 Si_unit with prefix = pico
aim794 Si_unit with prefix = femto
aim795 Si_unit with prefix = atto
aim796 Si_unit with prefix not present
aim797 Si_unit with name = metre (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.24, 6.26, 6.27, 6.28)
aim798 Si_unit with name = gram
aim799 Si_unit with name = second
aim800 Si_unit with name = ampere
aim801 Si_unit with name = kelvin
aim802 Si_unit with name = mole
aim803 Si_unit with name = candela
aim804 Si_unit with name = radian
aim805 Si_unit with name = steradian
aim806 Si_unit with name = hertz
aim807 Si_unit with name = newton
aim808 Si_unit with name = pascal
aim809 Si_unit with name = joule
aim810 Si_unit with name = watt
aim811 Si_unit with name = coulomb
aim812 Si_unit with name = volt
aim813 Si_unit with name = farad
aim814 Si_unit with name = ohm
aim815 Si_unit with name = siemens
aim816 Si_unit with name = weber
aim817 Si_unit with name = tesla
aim818 Si_unit with name = henry
aim819 Si_unit with name = degree_celsius
aim820 Si_unit with name = lumen
aim821 Si_unit with name = lux
aim822 Si_unit with name = becquerel
aim823 Si_unit with name = gray
aim824 Si_unit with name = sievert

4.2.242 Slot

aim825 Slot (see 6.8, 6.9, 6.21, 6.26)

4.2.243 Slot_end

aim826 Slot_end (see 6.7, 6.8, 6.9, 6.21, 6.24, 6.26)

aim827 Slot_end with product_definitional = TRUE (see 6.7, 6.8, 6.9, 6.21, 6.24, 6.26)

aim828 Slot_end with product_definitional = FALSE

aim829 Slot_end with product_definitional = UNKNOWN

4.2.244 Solid_angle_measure_with_unit

aim830 Solid_angle_measure_with_unit

4.2.245 Solid_angle_unit

aim831 Solid_angle_unit (see 6.4, 6.5, 6.6, 6.8, 6.9, 6.12, 6.14, 6.15, 6.16, 6.17, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.246 Solid_model

aim832 Solid_model

4.2.247 Spherical_cap

aim833 Spherical_cap (see 6.11)

4.2.248 Spherical_surface

aim834 Spherical_surface (see 6.4, 6.8, 6.11)

4.2.249 Square_u_profile

aim835 Square_u_profile (see 6.7, 6.8, 6.9, 6.13, 6.21, 6.24, 6.26, 6.28)

aim836 Square_u_profile with product_definitional = TRUE (see 6.7, 6.8, 6.9, 6.13, 6.21, 6.24, 6.26, 6.28)

aim837 Square_u_profile with product_definitional = FALSE

aim838 Square_u_profile with product_definitional = UNKNOWN

4.2.250 Standard_uncertainty

aim840 Standard_uncertainty (see 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.251 Step

aim841 Step (see 6.10)

4.2.252 Surface

aim842 Surface (see 6.27)

4.2.253 Surface_curve

aim843 Surface_curve

aim844 Surface_curve with associated_geometry of one element

aim845 Surface_curve with associated_geometry of many elements

aim846 Surface_curve with master_representation = curve_3d

aim847 Surface_curve with master_representation = pcurve_s1

aim848 Surface_curve with master_representation = pcurve_s2

4.2.254 Surface_of_linear_extrusion

aim849 Surface_of_linear_extrusion (see 6.21)

4.2.255 Surface_of_revolution

aim850 Surface_of_revolution

4.2.256 Surface_profile_tolerance

aim851 Surface_profile_tolerance (see 6.23)

4.2.257 Swept_surface

aim852 Swept_surface

4.2.258 Symmetry_tolerance

aim853 Symmetry_tolerance (see 6.24)

4.2.259 Taper

aim854 Taper (see 6.4, 6.5, 6.6, 6.13, 6.22)

aim855 Taper with product_definitional = TRUE (see 6.4, 6.5, 6.6, 6.13, 6.22)

aim856 Taper with product_definitional = FALSE

aim857 Taper with product_definitional = UNKNOWN

4.2.260 Tee_profile

aim858 Tee_profile (see 6.7, 6.8)

aim859 Tee_profile with product_definitional = TRUE (see 6.7, 6.8)

aim860 Tee_profile with product_definitional = FALSE

aim861 Tee_profile with product_definitional = UNKNOWN

4.2.261 Thread

aim862 Thread (see 6.14)

4.2.262 Tolerance_value

aim863 Tolerance_value

4.2.263 Tolerance_zone

aim864 Tolerance_zone (see 6.22, 6.28)

aim865 Tolerance_zone with defining_tolerance of one element (see 6.22, 6.28)

aim866 Tolerance_zone with defining_tolerance of many elements

4.2.264 Tolerance_zone_form

aim867 Tolerance_zone_form (see 6.28)

4.2.265 Topological_representation_Item

aim868 Topological_representation_Item

4.2.266 Toroidal_surface

aim869 Toroidal_surface (see 6.4, 6.5, 6.6, 6.7, 6.11)

4.2.267 Total_runout_tolerance

aim870 Total_runout_tolerance (see 6.24)

4.2.268 Transition_feature

aim871 Transition_feature

aim872 Transition_feature with product_definitional = TRUE

aim873 Transition_feature with product_definitional = FALSE

aim874 Transition_feature with product_definitional = UNKNOWN

4.2.269 Turned_knurl

aim875 Turned_knurl (see 6.16)

4.2.270 Type_qualifier

aim876 Type_qualifier (see 6.22)

4.2.271 Uncertainty_measure_with_unit

aim877 Uncertainty_measure_with_unit (see 6.1, 6.2, 6.3, 6.7, 6.10, 6.11, 6.13)

4.2.272 Uncertainty_qualifier

aim878 Uncertainty_qualifier

4.2.273 Uniform_curve

aim902 Uniform_curve

aim903 Uniform_curve with control_points_list of many elements

aim904 Uniform_curve with curve_form = polyline_form

aim905 Uniform_curve with curve_form = circular_arc

aim906 Uniform_curve with curve_form = elliptic_arc

aim907 Uniform_curve with curve_form = parabolic_arc

aim908 Uniform_curve with curve_form = hyperbolic_arc

aim909 Uniform_curve with curve_form = unspecified

aim910 Uniform_curve with closed_curve = TRUE

aim911 Uniform_curve with closed_curve = FALSE

aim912 Uniform_curve with closed_curve = UNKNOWN

aim913 Uniform_curve with self_intersect = TRUE

aim914 Uniform_curve with self_intersect = FALSE

aim915 Uniform_curve with self_intersect = UNKNOWN

4.2.274 Uniform_surface

aim916 Uniform_surface

aim917 Uniform_surface with control_points_list of many elements

aim918 Uniform_surface with surface_form = plane_surf

aim919 Uniform_surface with surface_form = cylindrical_surf

aim920 Uniform_surface with surface_form = conical_surf

aim921 Uniform_surface with surface_form = spherical_surf

aim922 Uniform_surface with surface_form = toroidal_surf
aim923 Uniform_surface with surface_form = surf_of_revolution
aim924 Uniform_surface with surface_form = ruled_surf
aim925 Uniform_surface with surface_form = generalised_cone
aim926 Uniform_surface with surface_form = quadric_surf
aim927 Uniform_surface with surface_form = surf_of_linear_extrusion
aim928 Uniform_surface with surface_form = unspecified
aim929 Uniform_surface with u_closed = TRUE
aim930 Uniform_surface with u_closed = FALSE
aim931 Uniform_surface with u_closed = UNKNOWN
aim932 Uniform_surface with v_closed = TRUE
aim933 Uniform_surface with v_closed = FALSE
aim934 Uniform_surface with v_closed = UNKNOWN
aim935 Uniform_surface with self_intersect = TRUE
aim936 Uniform_surface with self_intersect = FALSE
aim937 Uniform_surface with self_intersect = UNKNOWN

4.2.275 Vector

aim938 Vector (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.276 Vee_profile

aim939 Vee_profile (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.16, 6.24)
aim940 Vee_profile with product_definitional = TRUE (see 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.16, 6.24)
aim941 Vee_profile with product_definitional = FALSE
aim942 Vee_profile with product_definitional = UNKNOWN

4.2.277 Versioned_action_request

aim943 Versioned_action_request (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.20, 6.22, 6.23, 6.24, 6.26, 6.27, 6.28)

4.2.278 Vertex

aim944 Vertex

4.2.279 Vertex_loop

aim945 Vertex_loop

4.2.280 Vertex_point

aim946 Vertex_point (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28)

4.2.281 Week_of_year_and_day_date

aim947 Week_of_year_and_day_date

4.2.282 Week_of_year_and_day_date

aim948 Week_of_year_and_day_date

aim948 Week_of_year_and_day_date with day_component

aim949 Week_of_year_and_day_date with day_component not present

4.3 Implementation method test purposes

The following test purpose is derived from requirements in ISO 10303-21 and applies to preprocessors only.

other1 The IUT correctly encodes the AIM schema name in the exchange structure (see 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

4.4 Domain test purpose

The following test purposes are intended to test for certain general conditions as well as global and local rules associated with ISO 10303-224. They apply to postprocessors only.

other2 The IUT interprets the global rule for application_context_requires_ap_definition (see 6.1, 6.2, 6.3).

other3 The IUT interprets the global rule for approval_requires_approval_date_time definition (see 6.2, 6.3).

other4 The IUT interprets the global rule for approval_requires_approval_person_organization (see 6.2, 6.3).

other5 The IUT interprets the global rule for dependent_instantiable_action_request_status (see 6.2, 6.3).

other6 The IUT interprets the global rule for dependent_instantiable_action_status (see 6.2, 6.3).

other7 The IUT interprets the global rule for dependent_instantiable_approval_status (see 6.2, 6.3).

other8 The IUT interprets the global rule for dependent_instantiable_date (see 6.2, 6.3).

other9 The IUT interprets the global rule for `dependent_instantiable_named_unit` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other10 The IUT interprets the global rule for `dependent_instantiable_precision_qualifier` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other11 The IUT interprets the global rule for `dependent_instantiable_type_qualifier` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other12 The IUT interprets the global rule for `dependent_instantiable_uncertainty_qualifier` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other13 The IUT interprets the global rule for `dependent_instantiable_security_classification_level` (see 6.2, 6.3).

other14 The IUT interprets the global rule for `dependent_instantiable_shape_representation` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other15 The IUT interprets the global rule for `geometric_tolerance_subtype_exclusiveness` (see 6.22, 6.23, 6.24, 6.25).

other16 The IUT interprets the global rule for `machining_feature_life_cycle` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.26, 6.27).

other17 The IUT interprets the global rule for `material_is_specified_for_part` (see 6.1, 6.2, 6.3).

other18 The IUT interprets the global rule for `part_requires_project_order` (see 6.1, 6.2, 6.3).

other19 The IUT interprets the global rule for `part_to_approval` (see 6.1, 6.2, 6.3).

other20 The IUT interprets the global rule for `product_requires_version` (see 6.1, 6.2, 6.3).

other21 The IUT interprets the global rule for `product_definition_formation_requires_security_classification` (see 6.2, 6.3).

other22 The IUT interprets the global rule for `project_order_requires_approval` (see 6.2, 6.3).

other23 The IUT interprets the global rule for `project_order_tracking_relationships` (see 6.2, 6.3).

other24 The IUT interprets the global rule for `representation_subtype_exclusiveness` (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.27).

other25 The IUT interprets the global rule for restrict_approval_status (see 6.2, 6.3).

other26 The IUT interprets the global rule for shape_aspect_relationship_subtype_exclusiveness (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other27 The IUT interprets the global rule for shape_aspect_subtype_exclusiveness exclusiveness (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other28 The IUT interprets the global rule for shape_representation_subtype_exclusiveness exclusiveness (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other29 The IUT interprets the global rule for subtype_mandatory_characterized_object (see 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, 6.20, 6.21, 6.22, 6.23, 6.24, 6.25, 6.26, 6.27, 6.28).

other30 The IUT interprets the global rule for transition_feature_life_cycle (see 6.27).

other31 The IUT interprets the global rule for transition_feature_on_part_boundary (see 6.27).

5 General test purposes and verdict criteria

General test purposes are statements of requirements that apply to all abstract test cases, all preprocessor abstract test cases, or all postprocessor abstract test cases. General verdict criteria are the means for evaluating whether the general test purposes are met. General verdict criteria shall be evaluated as a part of every executable test case to which they apply. Each general verdict criterion includes a reference to its associated test purpose.

5.1 General test purposes

The following are the general test purposes for this part of ISO 10303:

g1 The output of an IUT shall preserve all the semantics defined by the input model according to the reference paths specified in the mapping table defined in clause 5 of ISO 10303-224.

g2 The output of a preprocessor shall conform to the implementation method to which the IUT claims conformance.

g3 The instances in the output of a preprocessor shall be encoded according to the AIM EXPRESS long form and mapping table as defined in Annex A and clause 5 of ISO 10303-224.

g4 A postprocessor shall accept input data which is encoded according to the implementation method to which the IUT claims conformance.

g5 A postprocessor shall accept input data structured according to the AIM EXPRESS long form and the mapping table as defined in clause 5 of ISO 10303-224.

5.2 General verdict criteria for all abstract test cases

The following verdict criteria apply to all abstract test cases contained in this part of ISO 10303:

gvc1 The semantics of the input model are preserved in the output of the IUT according to the reference paths specified in the mapping table defined in clause 5 of ISO 10303-224 (g1).

5.3 General verdict criteria for preprocessor abstract test cases

The following verdict criteria apply to all preprocessor abstract test cases contained in this part of ISO 10303:

gvc2 The output of a preprocessor conforms to the implementation method to which the IUT claims conformance (g2).

gvc3 The instances in the output of a preprocessor are encoded according to the AIM EXPRESS long form and mapping table as defined in Annex A and clause 5 of ISO 10303-224 (g3).

5.4 General verdict criteria for postprocessor abstract test cases

The following verdict criteria apply to all postprocessor abstract test cases contained in this part of ISO 10303:

gvc4 The postprocessor accepts input data which is encoded according to the implementation method to which the IUT claims conformance (g4).

gvc5 The postprocessor accepts input data which is structured according to the AIM EXPRESS long form and mapping table as defined in Annex A and clause 5 of ISO 10303-224 (g5).

6 Abstract test cases

This clause specifies the abstract test cases for this part of ISO 10303. Each abstract test case addresses one or more test purposes from clause 4. All the test purposes addressed by the test case are referenced either explicitly, in the test purposes covered sections, or indirectly, through the verdicted rows of the preprocessor input specification table.

The abstract test cases are organized into three categories of UoFs:

- The first three abstract test cases are for design_exception, manufacturing_process_control_documentation, manufacturing_part_properties, manufacturing_process_requirement_documents, part_administration_data, and requisitions.
- The second set of abstract test cases are for feature_definition_item, feature_profile, manufacturing_feature, part_model, and shape_representation_for_machining.
- The third set of abstract test cases test are for measurement_limitations.

The title for an abstract test case signifies type of data under test. All abstract test case names are unique within this part of ISO 10303.

Each abstract test case has a subclause for the preprocessor test information and a subclause for each postprocessor input specification and related test information. The preprocessor and postprocessor input specifications are mirror images of each other, i.e. they represent the same semantic information. The preprocessor input model is presented in the form of a table with five columns:

- The Id column is used to reference application objects for assertions and categorisations. It uses the same identifier as the test purpose associated with the application element in that row of the table.
- The V column specifies whether, or not, the element in that row of the table is verdicted in this test case. A blank indicates it is not verdicted. A '*' indicates that it is verdicted using a derived verdict criteria. The derived verdict criteria determine a number references that is a specific verdict criteria defined in the verdict criteria section that follows the preprocessor input specification table.
- The Application element column identifies the particular application element or categorisation instance that is being defined by the table. For assertions the role is specified in parenthesis.
- The Value column specifies a specific value for the application element. For application objects and attributes, the Value column defines the semantic value for that element's instance in the input model. A #<number> in the column is a reference to an entity instance name in the postprocessor input specification where the corresponding value is specified. For assertions, this column holds a link to the related application object. For categorisations, the Value column identifies the subtype application object. A "<not_present>" indicates that the application element or categorisation is not present in the input model.
- The Req column specifies whether the value in the Value column is mandatory (M), suggested (S) or constrained (Cn) where 'n' is an integer referencing a note that follows the table. A suggested value may be changed by a test realiser. A mandatory value may not be changed due to rules in EXPRESS, rules in the mapping table, or the requirements of the test purpose being verdicted. Each constrained value references a note labelled C<number> at the end of the preprocessor input model table and may be modified according to specific constraints specified in it.

The postprocessor input specifications are defined using ISO 10303-21. The values in the postprocessor specifications are suggested unless declared mandatory or constrained by the preprocessor input table.

The abstract test case specifies all the verdict criteria which are used to assign a verdict during testing. Special verdict criteria for preprocessor and postprocessor testing are defined explicitly in each abstract test case subclause. The relevant derived verdict criteria for preprocessor and postprocessor testing are identified in the V column of the preprocessor input table.

6.1 Case_0

Test case summary:

This abstract test case is the first of three cases which covers the entities of the following UoF's: design_exception, manufacturing_part_properties, manufacturing_process_control_documentation, manufacturing_process_requirement_documents, part_administration_data, part_model and requisitions. This test case represents the minimum set of required application elements.

6.1.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 1 - Application elements for Case_0

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1228	*	Part.part_name	#2, 'Testpart'	S
@ae1229	*	Part.part_revision_id	#1, 'NR'	S
@ae1227	*	Part.part_id	#2, '12345-PA-67'	S
@ae1226	*	Part.part_description	#2, 'validation part'	S
@ae1233	*	Part.security_classification	#6, 'unclassified'	S
@ae1244	*	Part to Organization (as manufactured_by_organization)	#57, (@ae1133.1)	S
@ae1255	*	Part to Shape (as physical_form)	#12, @ae1647	M
@ae1248	*	Part to Person_in_organization (as manufactured_by_person)	#56, (@ae1329)	S
@ae1237	*	Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250	*	Part to Person_in_organization (as owned_by_person)	#59, (@ae1329.3)	S
@ae1246	*	Part to Organization (as owned_by_organization)	#60, (@ae1133.1)	S
@ae1252	*	Part to Property (as property_characteristic)	<not_present>	M
@ae1240	*	Part to Material (as material_definition)	#81, (@ae762.1)	S

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1234	*	Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242	*	Part to Ordered_part (as quantity_ordered)	#62, (@ae1127)	S
@ae1648		Shape	#13	M
@ae1656		Shape to Shape_aspect (as element)	<not_present>	M
@ae1652		Shape to Base_shape (as base_shape_definition)	#16, @ae271	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape	#15	M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815.1	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815.1		Numeric_parameter	#34	M
@ae819		Numeric_parameter.parameter_name	#34, 'length'	S
@ae818		Numeric_parameter.parameter_value	#5, 5	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae848	*	Numeric_parameter to Implicit_base_shape_representation (base_shape_length) (as inverse relationship)	@ae271	M
@ae902	*	Numeric_parameter to Cylindrical_base_shape (diameter) (as inverse relationship)	<not_present>	M
@ae1145		Orientation	#20	M
@ae1146		Orientation.axis	#22,#23, (1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	#21, (0,0,0)	S
@ae1185	*	Orientation to Implicit_base_shape_representation (placement) (as inverse relationship)	@ae271	M
@ae815.2		Numeric_parameter	#35	M
@ae819		Numeric_parameter.parameter_name	#35, 'diameter'	S
@ae818		Numeric_parameter.parameter_value	#35, 4	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae849	*	Numeric_parameter to Implicit_base_shape_representation (base_shape_length) (as inverse relationship)	<not_present>	M
@ae899	*	Numeric_parameter to Cylindrical_base_shape (diameter) (as inverse relationship)	@ae271	M
@ae1321.1	*	Person	#36	M
@ae1324	*	Person.person_name	#36, 'John Smith'	S
@ae1322	*	Person.person_address	#37, '1234 Riverstreet, Charleston, SC 12345'	S

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1325	*	Person.person_phone_number	#37, '(804) 1234-5678'	S
@ae1323	*	Person.person_id	#36, '12345-PE-12'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.1	M
@ae1321.2	*	Person	#38	M
@ae1324	*	Person.person_name	#38, 'Bill Jones'	S
@ae1322	*	Person.person_address	#39, '1256 Meetingstreet, Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#39, '(804) 1234-8765'	S
@ae1323	*	Person.person_id	#38, '12345-PE-23'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.2	M
@ae1321.3	*	Person	#40	M
@ae1324	*	Person.person_name	#40, 'Jill Baker'	S
@ae1322	*	Person.person_address	#41, '4567 Lake Blvd., Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#41, '(804) 1234-7896'	S
@ae1323	*	Person.person_id	#40, '12345-PE-34'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.3	M
@ae1133.1	*	Organization	#44	M
@ae1135	*	Organization.organization_id	#44, '12345-OR-67'	S
@ae1136	*	Organization.organization_name	#44, 'Makeit INC.'	S
@ae1134	*	Organization.organization_address	#45, '4567 Airport Blvd., Charleston, SC 12345'	S
@ae1137	*	Organization to Part (manufactured_by_organization) as inverse relationship)	@ae1218	M
@ae1140	*	Organization to Part (Owned_by_organization) as inverse relationship)	@ae1218	M
@ae1143	*	Organization to Person_in_organization (company for) (as inverse relationship)	@ae1329	M
@ae1329	*	Person_in_organization	#48	M
@ae1334	*	Person_in_organization to Person (as employee)	#48, @ae1321.1	M
@ae1333	*	Person_in_organization to Organization (as company)	#48, @ae1133.1	M
@ae1332	*	Person_in_organization.role	#51, 'manufacturer'	S
@ae1339	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	@1218	M
@ae1335	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.2	*	Person_in_organization	#49	M
@ae1334	*	Person_in_organization to Person (as employee)	#49, @ae1321.2	M
@ae1333	*	Person_in_organization to Organization (as company)	#49, @ae1133.1	M
@ae1332	*	Person_in_organization.role	#53, 'Supervisor'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1335	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1342	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	@ae35	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.3	*	Person_in_organization	#50	M
@ae1334	*	Person_in_organization to Person (as employee)	#50, @ae1321..3	M
@ae1333	*	Person_in_organization to Organization (as company)	#50, @ae1133.1	M
@ae1332	*	Person_in_organization.role	#52, 'owner'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	@ae1218	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1321.4	*	Person	#42	M
@ae1324	*	Person.person_name	#42, 'Ted Cocker'	S
@ae1322	*	Person.person_address	#43, '5361 Sunshine Blvd., Anywhere, IA 76341'	S
@ae1325	*	Person.person_phone_number	#43, '(835) 1234-6432'	S
@ae1323	*	Person.person_id	#42, '54321-PE-87'	S

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.5	M
@ae1133.2	*	Organization	#46	M
@ae1135	*	Organization.organization_id	#46, '54321-OR-87'	S
@ae1136	*	Organization.organization_name	#46, 'Wantit INC.'	S
@ae1134	*	Organization.organization_address	#47, '8567 Portstreet, Anywhere, Iowa 67854'	S
@ae1137	*	Organization to Part (manufactured_by_organization) as inverse relationship)	<not_present>	M
@ae1139	*	Organization to Part (Owned_by_organization) as inverse relationship)	<not_present>	M
@ae1143	*	Organization to Person_in_organization (company for) (as inverse relationship)	@ae1329.2	M
@ae1329.5	*	Person_in_organization	#55	M
@ae1334	*	Person_in_organization to Person (as employee)	#55, @ae1321.4	M
@ae1333	*	Person_in_organization to Organization (as company)	#55, @ae1133.2	M
@ae1332	*	Person_in_organization.role	#54, 'Buyer'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1335	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1127	*	Ordered_part	#62	M
@ae1128	*	Ordered_part.quantity_required	#67, 1	S
@ae1129	*	Ordered_part.quantity_unit_of_measure	#68, 'each'	S
@ae1130	*	Ordered_part to Customer_order (quantity_ordered) (as inverse relationship)	<not_present>	M
@ae1132	*	Ordered_part to Part (quantity ordered for) (as inverse relationship)	@ae1218	M
@ae762.1	*	Material	#80	M
@ae765	*	Material.material_id	#80, 'Steel Alloy 8640'	S
@ae764	*	Material.material_description	#81, 'Steel bar stock'	S
@ae767	*	Material.stock_size	#81, '5 x 3'	S
@ae771	*	Material to Specification (as material_specification)	<not_present>	M

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae768	*	Material to Material_property (as material_characteristic)	<not_present>	M
@ae774	*	Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae390	*	Design_exception_notice	#82	M
@ae400	*	Design_exception_notice to Part (as discrepant_part)	#83, (@ae1218)	S
@ae397	*	Design_exception_notice to Engineering_change_proposal (as result)	<not_present>	M
@ae394	*	Design_exception_notice.notice_number	#82, '123-DEN-111'	S
@ae393	*	Design_exception_notice.notice_description	'If two holes are drilled simultaneously and the drill bits would run together, a recommendation would be needed to either change the depth of the hole or change the machining process.'	S
@ae396	*	Design_exception_notice.technical_ recommendation	#87, 'use other machine'	S
@ae392	*	Design_exception_notice.issuing_date	#85, '1996-06-26'	S
@ae1756	*	Specification	#89	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	#89, '123-S-111'	S
@ae1759	*	Specification.specification_description	#89, 'none'	S
@ae1758	*	Specification.specification_class	#89, 'none'	S
@ae1574	*	Requisition	#91	M
@ae1585	*	Requisition.requisition_number	#91, '123-R-345'	S
@ae1581	*	Requisition.quantity_ordered	#91, 2	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#91, 'board ordered'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae799	*	Material_requisition	#99	M
@ae1585	*	Requisition.requisition_number	#99, '123-MR-123'	S
@ae1581	*	Requisition.quantity_ordered	#99, 2	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#99, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae336	*	Dedicated_fixture_requisition	#101	M
@ae1585	*	Requisition.requisition_number	#101, '123-DFR-123'	S
@ae1581	*	Requisition.quantity_ordered	#101, 4	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#101, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S

Table 1 - Application elements for Case_0 (continued)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae656	*	Indirect_stock_requisition	#103	M
@ae1585	*	Requisition.requisition_number	#103, '123-ISR-345'	S
@ae1581	*	Requisition.quantity_ordered	#103, 1	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#103, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae723	*	Machine_requisition	#105	M
@ae1585	*	Requisition.requisition_number	#105, '12-MR-1234'	S
@ae1581	*	Requisition.quantity_ordered	#105, 1	S
@ae1583	*	Requisition.requisition_date	#05, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#103, '5-axis milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae270	*	Cutting_tool_requisition	#107	M
@ae1585	*	Requisition.requisition_number	#107, '123-CTR-345'	S
@ae1581	*	Requisition.quantity_ordered	#107, 2	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#107, 'Cutting tools for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae800	*	Modular_fixture_requisition	#109	M
@ae1585	*	Requisition.requisition_number	#109, '123-MFR-2342'	S
@ae1581	*	Requisition.quantity_ordered	#109, 5	S
@ae1583	*	Requisition.requisition_date	#95, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#109, 'Modular fixture for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#97, '1996-09-07'	S
@ae1428	*	Project_order	#63	M
@ae1449	*	Project_order.shop_work_status	<not_present>	M
@ae1447	*	Project_order.resource_acquisition_status	<not_present>	M
@ae1442	*	Project_order.pedigree_creation_status	<not_present>	M
@ae1438	*	Project_order.technical_data_package_status	<not_present>	M
@ae1444	*	Project_order to Requisition (as ordered_resource)	<not_present>	M
@ae1432	*	Project_order.project_order_id	#65, '123-PO-9877'	S
@ae1440	*	Project_order to Part (as part_status)	#72, (@ae1218)	S
@ae1437	*	Project_order to Approval (as release_authorization)	#74, @ae35	M
@ae1452	*	Project_order to Customer_order (initiated_order) (as inverse relationship)	@ae268	M
@ae35	*	Approval	#73	M
@ae43	*	Approval to Person_in_organization (as approval_authority)	#78, (@ae1329.2)	S

Table 1 - Application elements for Case_0 (concluded)

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae42	*	Approval.status	#75, 'withdrawn'	S
@ae37	*	Approval.approval_date	#77, '1996-06-26'	S
@ae45	*	Approval to Part (manufacturer_authorization) (as inverse relationship)	<not_present>	
@ae762.2	*	Material	#111	M
@ae765	*	Material.material_id	#111, 'Steel Alloy 8640'	S
@ae764	*	Material.material_description	#112, 'Steel stock bar'	S
@ae767	*	Material.stock_size	#112, 'bar stock 5x5'	S
@ae771	*	Material to Specification (as material_specification)	<not_present>	M
@ae768	*	Material to Material_property (as material_characteristic)	<not_present>	M
@ae776	*	Material to Alternate_material (material_substitute) (as inverse relationship)	<not_present>	M
@ae774	*	Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae787	*	Material_property	#113	M
@ae793	*	Material_property to Hardness (as material_hardness)	<not_present>	M
@ae790	*	Material_property to Property_parameter (as property_characteristics)	<not_present>	M
@ae1460	*	Property	#114	M
@ae1462	*	Property.property_name	#114, 'external process'	S
@ae1480	*	Property to Specification (as property_description)	<not_present>	M
@ae1477	*	Property to Shape_aspect (as property_characteristic)	<not_present>	M
@ae1468	*	Property to Material_property (as material_characteristic)	<not_present>	M
@ae1483	*	Property to Surface_property (as surface_characteristic)	<not_present>	M
@ae1471	*	Property to Part_property (as part_property_characteristic)	<not_present>	M
@ae1474	*	Property to Process_property (as process_characteristic)	<not_present>	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria).
The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.1.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other2, other17, other18, other19, and other20.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 1, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim8,	@aim55,	@aim62,	@aim63,	@aim64,
@aim66,	@aim67,	@aim74	@aim75,	@aim77,	@aim214,	@aim215,	@aim217,
@aim295,	@aim296,	@aim298,	@aim300,	@aim304,	@aim326,	@aim331,	@aim333,
@aim334,	@aim341,	@aim343,	@aim378,	@aim379,	@aim381,	@aim382,	@aim384,
@aim385,	@aim387,	@aim388,	@aim389,	@aim393,	@aim394,	@aim396,	@aim397,
@aim399,	@aim400,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim441,
@aim442,	@aim455,	@aim459,	@aim460,	@aim465,	@aim474,	@aim489,	@aim491,
@aim494,	@aim495,	@aim499,	@aim500,	@aim502,	@aim503,	@aim505,	@aim508,
@aim509,	@aim511,	@aim513,	@aim515,	@aim518,	@aim520,	@aim522,	@aim524,
@aim525,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,
@aim592,	@aim593,	@aim595,	@aim596,	@aim598,	@aim601,	@aim602,	@aim604,
@aim606,	@aim608,	@aim611,	@aim612,	@aim615,	@aim617,	@aim618,	@aim623,
@aim624,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,
@aim649,	@aim650,	@aim651,	@aim747,	@aim748,	@aim750,	@aim760,	@aim762,
@aim769,	@aim877,	@aim943					

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 1 above apply.

6.2 Case_1

Test case summary:

This abstract test case is the second of three cases which covers the entities of the following UoF's: design_exception, manufacturing_part_properties, manufacturing_process_control_documentation, manufacturing_process_requirement_documents, part_administration_data, part_model and requisitions.

6.2.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 2 - Application elements for Case_1

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	m
@ae1228	*	Part.part_name	#2, 'Testpart'	s
@ae1229	*	Part.part_revision_id	#1, 'NR'	s
@ae1227	*	Part.part_id	#2, '12345-PA-67'	s
@ae1226	*	Part.part_description	#2, 'validation part'	s
@ae1233	*	Part.security_classification	#6, 'unclassified'	s
@ae1244	*	Part to Organization (as manufactured_by_organization)	#57, (@ae1133)	s
@ae1255	*	Part to Shape (as physical_form)	#12, @ae1647	m
@ae1248	*	Part to Person_in_organization (as manufactured_by_person)	#56, (@ae1329)	s
@ae1238	*	Part to Approval (as manufacture_authorization)	#74, (@ae35)	s
@ae1250	*	Part to Person_in_organization (as owned_by_person)	#59, (@ae1329.3)	s
@ae1246	*	Part to Organization (as owned_by_organization)	#60, (@ae1133)	s
@ae1253	*	Part to Property (as property_characteristic)	#114, (@ae1460)	s
@ae1240	*	Part to Material (as material_definition)	#81, (@ae762)	s

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1235	*	Part to Alternate_material (as alternate_material_definition)	# 139, (@ae1)	S
@ae1242	*	Part to Ordered_part (as quantity_ordered)	#62, (@ae1127)	S
@ae1256	*	Part to Project_order (part_status) (as inverse relationship)	#72, @ae1428	M
@ae1258	*	Part to Engineering_change_order (new_version_changes) (as inverse relationship)	#123, @ae470	M
@ae1260	*	Part to Design_exception_notice (discrepant_part) (as inverse relationship)	#83, @ae390	M
@ae1648	*	Shape	#13	M
@ae1656		Shape to Shape_aspect (as element)	<not_present>	M
@ae1652		Shape to Base_shape (as base_shape_definition)	#16, @ae271	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae1660	*	Shape to Part (physical_form) (as inverse relationship)	@ae1218	M
@ae271		Cylindrical_base_shape	#15	M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter	#34	M
@ae1491		Property_parameter.parameter_name	#34, 'length'	S
@ae818		Numeric_parameter.parameter_value	#34, 5	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae848		Numeric_parameter to Implicit_base_shape_representation (base_shape_length) (as inverse relationship)	@ae271	M
@ae1145		Orientation	#20	M
@ae1146		Orientation.axis	#22,#23, (1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	#21, (0,0,0)	S
@ae1185	*	Orientation to Implicit_base_shape_representation (placement) (as inverse relationship)	@ae271	M
@ae815.2		Numeric_parameter	#35	M
@ae1491		Property_parameter.parameter_name	#35, 'diameter'	S
@ae818		Numeric_parameter.parameter_value	#35, 4	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae899		Numeric_parameter to Cylindrical_base_shape (diameter) (as inverse relationship)	@ae271	M
@ae1321	*	Person	#36	M
@ae1324	*	Person.person_name	#36, 'John Smith'	S

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1322	*	Person.person_address	#37, '1234 Riverstreet, Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#37, '(804) 1234-5678'	S
@ae1323	*	Person.person_id	#36, '12345-PE-12'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129	M
@ae1321.2	*	Person	#38	M
@ae1324	*	Person.person_name	#38, 'Bill Jones'	S
@ae1322	*	Person.person_address	#39, '1256 Meetingstreet, Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#39, '(804) 1234-8765'	S
@ae1323	*	Person.person_id	#38, '12345-PE-23'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.2	M
@ae1321.3	*	Person	#40	M
@ae1324	*	Person.person_name	#40, 'Jill Baker'	S
@ae1322	*	Person.person_address	#41, '4567 Lake Blvd., Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#41, '(804) 1234-7896'	S
@ae1323	*	Person.person_id	#40, '12345-PE-34'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.3	M
@ae1133	*	Organization	#44	M
@ae1135	*	Organization.organization_id	#44, '12345-OR-67'	S
@ae1136	*	Organization.organization_name	#44, 'Makeit INC.'	S
@ae1134	*	Organization.organization_address	#45, '4567 Airport Blvd., Charleston, SC 12345'	S
@ae1137	*	Organization to Part (manufactured_by_organization) (as inverse relationship)	@ae1218	M
@ae1140	*	Organization to Part (Owned_by_organization) (as inverse relationship)	@ae1218	M
@ae1144	*	Organization to Person_in_organization (company for) (as inverse relationship)	(@ae1329, @ae1329.2, @ae1329.3)	M
@ae1329	*	Person_in_organization	#48	M
@ae1334	*	Person_in_organization to Person (as employee)	#48, @ae1321	M
@ae1333	*	Person_in_organization to Organization (as company)	#48, @ae1133	M
@ae1332	*	Person_in_organization.role	#51, 'manufacturer'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	@ae1218	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.2	*	Person_in_organization	#49	M
@ae1334	*	Person_in_organization to Person (as employee)	#49, @ae1321.2	M
@ae1333	*	Person_in_organization to Organization (as company)	#49, @ae1133	M
@ae1332	*	Person_in_organization.role	#53, 'supervisor'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	@ae35	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.3	*	Person_in_organization	#50	M
@ae1334	*	Person_in_organization to Person (as employee)	#50, @ae1321.3	M
@ae1333	*	Person_in_organization to Organization (as company)	#50, @ae1133	M
@ae1332	*	Person_in_organization.role	#52, 'owner'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	@ae1218	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1321.4	*	Person	#42	M
@ae1324	*	Person.person_name	#42, 'Ted Cocker'	S
@ae1322	*	Person.person_address	#43, '5361 Sunshine Blvd., Anywhere, IA 76341'	S
@ae1325	*	Person.person_phone_number	#43, '(835) 1234-6432'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.4	M
@ae1133.2	*	Organization	#46	M
@ae1135	*	Organization.organization_id	#46, '54321-OR-87'	S

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1136	*	Organization.organization_name	#46, 'Wantit INC.'	S
@ae1134	*	Organization.organization_address	#47, '8567 Portstreet, Anywhere, Iowa 67854'	S
@ae1329.4	*	Person_in_organization	#55	M
@ae1334	*	Person_in_organization to Person (as employee)	#55, @ae1321.4	M
@ae1333	*	Person_in_organization to Organization (as company)	#55, @ae1133.2	M
@ae1332	*	Person_in_organization.role	#54, 'Buyer'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1345	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	@ae256	M
@ae1127	*	Ordered_part	#62	M
@ae1128	*	Ordered_part.quantity_required	#67, 1	S
@ae1129	*	Ordered_part.quantity_unit_of_measure	#68, 'each'	S
@ae1131	*	Ordered_part to Customer_order (quantity_ordered) (as inverse relationship)	@ae256	M
@ae1132	*	Ordered_part to Part (quantity ordered for) (as inverse relationship)	@ae1218	M
@ae762	*	Material	#80	M
@ae765	*	Material.material_id	#80, 'Steel Alloy 8640'	S
@ae764	*	Material.material_description	#81, 'Steel bar stock'	S
@ae767	*	Material.stock_size	#81, '5 x 3'	S
@ae772	*	Material to Specification (as material_specification)	#81, (@ae1756)	S
@ae769	*	Material to Material_property (as material_characteristic)	#113, (@ae787)	S
@ae774	*	Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae390	*	Design_exception_notice	#82	M
@ae400	*	Design_exception_notice to Part (as discrepant_part)	#83, (@ae1218)	S
@ae398	*	Design_exception_notice to Engineering_change_proposal (as result)	#121, (@ae478)	S
@ae394	*	Design_exception_notice.notice_number	#82, '123-DEN-111'	S

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae393	*	Design_exception_notice.notice_description	#82, 'If two holes are drilled simultaneously and the drill bits would run together, a recommendation would be needed to either change the depth of the hole or change the machining process.'	S
@ae396	*	Design_exception_notice.technical_recommendation	#87, 'use other machine'	S
@ae392	*	Design_exception_notice.issuing_date	#84, '1996-06-26'	S
@ae1756	*	Specification	#89	M
@ae1762	*	Specification to Specification_usage_constraint (as constraint)	#89, (@ae1778)	S
@ae1760	*	Specification.specification_id	#89, '123-S-111'	S
@ae1759	*	Specification.specification_description	#89, 'Wave preproduction interspection para 3.1'	S
@ae1758	*	Specification.specification_class	#89, 'Type Z'	S
@ae1764	*	Specification to Material (material_specification) (as inverse relationship)	@ae762	M
@ae1771	*	Specification to Property (property_definition) (as inverse relationship)	@ae1460	M
@ae1574	*	Requisition	#91	M
@ae1585	*	Requisition.requisition_number	#91, '123-R-345'	S
@ae1581	*	Requisition.quantity_ordered	#91, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#91, 'board ordered'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae799	*	Material_requisition	#99	M
@ae1585	*	Requisition.requisition_number	#99, '123-MR-123'	S
@ae1581	*	Requisition.quantity_ordered	#99, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#99, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae336	*	Dedicated_fixture_requisition	#101	M
@ae1585	*	Requisition.requisition_number	#101, '123-DFR-123'	S
@ae1581	*	Requisition.quantity_ordered	#101, 4	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#101, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae656	*	Indirect_stock_requisition	#103	M
@ae1585	*	Requisition.requisition_number	#103, '123-ISR-345'	S
@ae1581	*	Requisition.quantity_ordered	#103, 1	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#103, 'none'	S

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae723	*	Machine_requisition	#105	M
@ae1585	*	Requisition.requisition_number	#105, '12-MR-1234'	S
@ae1581	*	Requisition.quantity_ordered	#105, 1	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#105, '5-axis milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae270	*	Cutting_tool_requisition	#107	M
@ae1585	*	Requisition.requisition_number	#107, '123-CTR-345'	S
@ae1581	*	Requisition.quantity_ordered	#107, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#107, 'Cutting tools for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae800	*	Modular_fixture_requisition	#109	M
@ae1585	*	Requisition.requisition_number	#109, '123-MFR-2342'	S
@ae1581	*	Requisition.quantity_ordered	#109, 5	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#109, 'Modular fixture for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae1428	*	Project_order	#63	M
@ae1450	*	Project_order to Shop_work_order (as shop_work_status)	#163, @ae1727	M
@ae1434	*	Project_order.resource_acquisition_status	#164, @ae1587	M
@ae1443	*	Project_order to Pedigree_creation_order (as pedigree_creation_status)	#165, @ae1312	M
@ae1436	*	Project_order.technical_data_package_status	#166, @ae423	M
@ae1445	*	Project_order to Requisition (as ordered_resource)	#116, (@ae1574)	S
@ae1432	*	Project_order.project_order_id	#65, '123-PO-9877'	S
@ae1440	*	Project_order to Part (as part_status)	#72, (@ae1218)	S
@ae1437	*	Project_order to Approval (as release_authorization)	#74, @ae35	M
@ae1452	*	Project_order to Customer_order (initiated_order) (as inverse relationship)	@ae268	M
@ae35	*	Approval	#73	M
@ae43	*	Approval to Person_in_organization (as approval_authority)	#78, (@ae1329.2)	S
@ae41	*	Approval.status	#75, 'not_yet_approved'	S
@ae37	*	Approval.approval_date	#76, '1996-06-26'	S
@ae46	*	Approval to Part (manufacturer_authorization) (as inverse relationship)	@ae1218	M

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae49	*	Approval to Project_order (release_authorization) (as inverse relationship)	@ae1428	M
@ae762.2	*	Material	#111	M
@ae765	*	Material.material_id	#111, 'Steel Alloy 8640'	S
@ae764	*	Material.material_description	#112, 'Steel stock bar'	S
@ae767	*	Material.stock_size	#112, 'bar stock 5x5'	S
@ae772	*	Material to Specification (as material_specification)	#112, (@ae1756)	S
@ae769	*	Material to Material_property (as material_characteristic)	#115, (@ae787)	S
@ae774	*	Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae777	*	Material to Alternate_material (material_substitute) (as inverse relationship)	@ae1	M
@ae787	*	Material_property	#113	M
@ae794	*	Material_property to Hardness (as material_hardness)	#167, (@ae638)	S
@ae791	*	Material_property to Property_parameter (as property_characteristics)	#169, (@ae1488)	S
@ae797	*	Material_property to Property Material (material_characteristic_for) (as inverse relationship)	@ae1460	M
@ae796	*	Material_property to Material (material_characteristics_for) (as inverse relationship)	@ae762	M
@ae1460	*	Property	#114, #196	M
@ae1462	*	Property.property_name	#114, #196, 'external process'	S
@ae1481	*	Property to Specification (as property_description)	#118, (@ae1756)	S
@ae1478	*	Property to Shape_aspect (as property_characteristic)	#196, (@ae1662.2)	S
@ae1469	*	Property to Material_property (as material_characteristic)	#176, (@ae787)	S
@ae1484	*	Property to Surface_property (as surface_characteristic)	#177, (@ae1821)	S
@ae1472	*	Property to Part_property (as part_property_characteristic)	#178, (@ae1262)	S
@ae1475	*	Property to Process_property (as process_characteristic)	#179, (@ae1411)	S
@ae1486	*	Property to Part (property_characteristic) (as inverse relationship)	@ae1218	M
@ae478	*	Engineering_change_proposal	#119	M
@ae479	*	Engineering_change_proposal.change_ proposal_number	#119, '123-ECP-456'	S
@ae481	*	Engineering_change_proposal to Engineering_change_order (incorporated_proposal	@ae470	M

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae483	*	Engineering_change_proposal to Design_exception_notice (result) (as inverse relationship)	@390	M
@ae470	*	Engineering_change_order	#121	M
@ae476	*	Engineering_change_order to Engineering_change_proposal (as incorporated_proposal)	#126, (@ae479)	S
@ae474	*	Engineering_change_order to Part (as new_version)	#123, (@ae1218)	S
@ae471	*	Engineering_change_order.change_order_number	#121, '123-ECO-346'	S
@ae476	*	Engineering_change_order to Engineering_change_proposal (incorporated_proposal)	@ae478	M
@ae1778	*	Specification_usage_constraint	#127	M
@ae1780	*	Specification_usage_constraint.element	#127, 'Paragraph 3.1'	S
@ae1779	*	Specification_usage_constraint.class_id	#127, 'Class 3, Type Z'	S
@ae1781	*	Specification to Specification_usage_constraint (constrain) (as inverse relationship)	@ae1756	M
@ae1	*	Alternate_material	#128	M
@ae2	*	Alternate_material.alternate_ranking	#129, 1	S
@ae4	*	Alternate_material to Material (as material_substitute)	#128, @ae762.2	M
@ae5	*	Alternate_material to Part (alternate_material_definitoin) (as inverse relationship)	@ae1218	M
@ae256	*	Customer_order	#131	M
@ae267	*	Customer_order to Person_in_organization (as customer)	#140, @ae1329.4	M
@ae265	*	Customer_order to Ordered_part (as quantity_ordered)	#62, (@ae1127)	S
@ae261	*	Customer_order.order_number	#133, '123-CO-234'	S
@ae260	*	Customer_order.material_disposition	#131, 'ship with finished product'	S
@ae262	*	Customer_order.order_status	#135, 'waiting on TDP'	S
@ae264	*	Customer_order.special_instructions	#133, 'ship via ground transportation'	S
@ae258	*	Customer_order.delivery_date	#136, '1996-12-12'	S
@ae268	*	Customer_order to Project_order (as initiated_order)	#139, (@ae1428)	S
@ae1727	*	Shop_work_order	#142	M
@ae1728	*	Shop_work_order.order_id	#144, '123-SWO-234'	S
@ae1729	*	Shop_work_order to Project_order (shop_work_status) (as inverse relationship)	@ae1428	M
@ae1587	*	Resource_acquisition_order	#146	M
@ae1588	*	Resource_acquisition_order.order_id	#148, '243-RAO-576'	S

Table 2 - Application elements for Case_1 (continued)

Id	V	Application elements	Value	Req
@ae1589	*	Resource_acquisition_order to Project_order (resource_acquisition) (as inverse relationship)	@ae1428	M
@ae1313	*	Pedigree_creation_order	#150	M
@ae1314	*	Pedigree_creation_order.order_id	#152, '123-PCO-546'	S
@ae1315	*	Pedigree_creation_order to Project_order (pedigree_creation_status) (as inverse relationship)	@ae1428	M
@ae423	*	Digital_technical_data_package_work_order	#154	M
@ae424	*	Digital_technical_data_package_work_order.order_id	#156, '345-DTDPWO-567'	S
@ae425	*	Digital_technical_data_package_work_order. to Project_order (technical_data_package) (as inverse relationship)	@ae1428	M
@ae638	*	Hardness	#158	M
@ae642	*	Hardness.scale	#162, 'Rockwell C'	S
@ae639	*	Hardness.high_value	#159, '40'	S
@ae640	*	Hardness.low_value	#160, '30'	S
@ae641	*	Hardness.nominal	#161, '35'	S
@ae643	*	Hardness to Material_property (naterial_hardness) (as inverse relationship)	@ae787	M
@ae1488	*	Property_parameter	#170	M
@ae1491	*	Property_parameter.parameter_name	#168, 'test parameter'	S
@ae1492	*	Property_parameter to Process_property (property_characteristic) (as inverse relationship)	@ae787	M
@ae1662	*	Shape_aspect	#180	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	#180, @ae1606	M
@ae1677	*	Shape_aspect to Property (property_characteristics) (as inverse relationship)	<not_present>	M
@ae1662.2	*	Shape_aspect	#181	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	#181, @ae1606	M
@ae1678	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	@ae1460	M
@ae1606	*	Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145	M
@ae743		Machining_feature.usage_name	#181, 'hole'	S

Table 2 - Application elements for Case_1 (concluded)

Id	V	Application elements	Value	Req
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	#203, @ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	#194, @ae136	M
@ae1614		Round_hole to Linear_path (as hole_depth)	#195, @ae665	M
@ae1690	*	Shape_element to Shape_aspect (element) (as inverse relationship)	@ae1662.2	M
@ae136	*	Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145	M
@ae143	*	Circular_closed_profile to Round_hole (diameter) (as inverse relationship)	@ae1606)	M
@ae815.3		Numeric_parameter	#187	M
@ae1491		Property_parameter.parameter_name	#187, 'diameter'	S
@ae818		Numeric_parameter.parameter_value	#187, 4	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae665		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae815.4		Numeric_parameter	#186	M
@ae1491		Property_parameter.parameter_name	#186, 'distance'	S
@ae818		Numeric_parameter.parameter_value	#186, 7	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae1821	*	Surface_property	#171	M
@ae1824	*	Surface_property to Property_parameter (as property_characteristic)	<not_present>	M
@ae1823	*	Surface_property.surface_finish	#171, .T.	S
@ae1262	*	Part_property	#172	M
@ae1264	*	Part_property to Property_parameter (as property_characteristic)	<not_present>	M
@ae1411	*	Process_property	#173	M
@ae1412	*	Process_property.process_name	#175, 'drilling'	S
@ae1414	*	Process_property to Property_parameter (as property_characteristic)	<not_present>	M
@ae1417	*	Process_property to Property (process_characteristic) (as inverse relationship)	@ae1460	M
@ae1877	*	Through_bottom_condition	#202	M
@ae1879	*	Through_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	@ae1606	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.2.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other2, other3, other4, other5, other6, other7, other8, other13, other17, other18, other19, other20, other21, other22, other23, and other25.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 2, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim7,	@aim8,	@aim10,	@aim55,	@aim62,
@aim63,	@aim64,	@aim66,	@aim67,	@aim74,	@aim75,	@aim77,	@aim214,
@aim215,	@aim217,	@aim244,	@aim246,	@aim295,	@aim296,	@aim298,	@aim300,
@aim304,	@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,	@aim341,
@aim342,	@aim343,	@aim378,	@aim379,	@aim381,	@aim382,	@aim384,	@aim386,
@aim387,	@aim388,	@aim389,	@aim390,	@aim391,	@aim392,	@aim393,	@aim395,
@aim396,	@aim397,	@aim398,	@aim399,	@aim400,	@aim403,	@aim415,	@aim426,
@aim427,	@aim429,	@aim430,	@aim432,	@aim434,	@aim441,	@aim442,	@aim455,
@aim459,	@aim460,	@aim465,	@aim474,	@aim489,	@aim491,	@aim494,	@aim495,
@aim499,	@aim500,	@aim502,	@aim503,	@aim505,	@aim508,	@aim509,	@aim511,
@aim513,	@aim515,	@aim518,	@aim520,	@aim522,	@aim524,	@aim525,	@aim565,
@aim567,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,
@aim592,	@aim593,	@aim595,	@aim596,	@aim598,	@aim601,	@aim602,	@aim604,
@aim606,	@aim608,	@aim611,	@aim612,	@aim615,	@aim617,	@aim618,	@aim623,
@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,
@aim644,	@aim646,	@aim647,	@aim649,	@aim650,	@aim651,	@aim747,	@aim748,
@aim749,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	
@aim769,	@aim776,	@aim777,	@aim778,	@aim840,	@aim877,	@aim943	

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 2 above apply.

6.3 Case_2

Test case summary:

This abstract test case is the third of three cases which covers the entities of the following UoF's: design_exception, manufacturing_part_properties, manufacturing_process_control_documentation, manufacturing_process_requirement_documents, part_administration_data, part_model and requisitions.

6.3.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 3 - Application elements for Case_2

Id	V	Application elements	Value	Req
@ae1218	*	Part	#1	M
@ae1228	*	Part.part_name	#2, 'Testpart'	S
@ae1229	*	Part.part_revision_id	#1, 'NR'	S
@ae1227	*	Part.part_id	#2, '12345-PA-67'	S
@ae1226	*	Part.part_description	#2, 'validation part'	S
@ae1233	*	Part.security_classification	#6, 'unclassified'	S
@ae1245	*	Part to Organization (as manufactured_by_organization)	#57, #226, (@ae1133,@ae1133.2)	S
@ae1255	*	Part to Shape (as physical_form)	#12, @ae1647	M
@ae1249	*	Part to Person_in_organization (as manufactured_by_person)	#56, #227, (@ae1329,@ae1329.2)	S
@ae1239	*	Part to Approval (as manufacture_authorization)	#74, #228, (@ae35,@ae35.2)	S
@ae1251	*	Part to Person_in_organization (as owned_by_person)	#59, #229, (@ae1329.3,@ae1329.2)	S
@ae1247	*	Part to Organization (as owned_by_organization)	#60, #230, (@ae1133,@ae1133.2)	S
@ae1254	*	Part to Property (as property_characteristic)	#114, #193, (@ae1460,@ae1460.2)	S
@ae1241	*	Part to Material (as material_definition)	#81, #192, (@ae762,@ae762.2)	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1236	*	Part to Alternate_material (as alternate_material_definition)	#128, #231, (@ae1,@ae1.2)	S
@ae1243	*	Part to Ordered_part (as quantity_ordered)	#62, #202, (@ae1127,@ae1127.2)	S
@ae1256	*	Part to Project_order (part_status) (as inverse relationship)	@ae1428	M
@ae1258	*	Part to Engineering_change_order (new_version_changes) (as inverse relationship)	@ae470	M
@ae1260	*	Part to Design_exception_notice (discrepant_part) (as inverse relationship)	@ae390	M
@ae1648		Shape	#13	M
@ae1656		Shape to Shape_aspect (as element)	<not_present>	M
@ae1652		Shape to Base_shape (as base_shape_definition)	#16, @ae271	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae1660		Shape to Part (physical_form) (as inverse relationship)	@ae1218	M
@ae271		Cylindrical_base_shape	#15	M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter	#34	M
@ae1491		Property_parameter.parameter_name	#34, 'length'	S
@ae818		Numeric_parameter.parameter_value	#34, 5	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae848		Numeric_parameter to Implicit_base_shape_representation (base_shape_length) (as inverse relationship)	@ae271	M
@ae1145		Orientation	#20	M
@ae1146		Orientation.axis	#22, #23, (1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	#21, (0,0,0)	S
@ae1185	*	Orientation to Implicit_base_shape_representation (placement) (as inverse relationship)	@ae271	M
@ae815.2		Numeric_parameter	#35	M
@ae1491		Property_parameter.parameter_name	#35, 'diameter'	S
@ae818		Numeric_parameter.parameter_value	#35, 4	S
@ae817		Numeric_parameter.parameter_units	#30, 'inch'	S
@ae899		Numeric_parameter to Cylindrical_base_shape (diameter) (as inverse relationship)	@ae271	M
@ae1321	*	Person	#36	M

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1324	*	Person.person_name	#36, 'John Smith'	S
@ae1322	*	Person.person_address	#37, '1234 Riverstreet, Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#37, '(804) 1234-5678'	S
@ae1323	*	Person.person_id	336, '12345-PE-12'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129	M
@ae1321.2	*	Person	#38	M
@ae1324	*	Person.person_name	#38, 'Bill Jones'	S
@ae1322	*	Person.person_address	#39, '1256 Meetingstreet, Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#39, '(804) 1234-8765'	S
@ae1323	*	Person.person_id	#38, '12345-PE-23'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.2	M
@ae1321.3	*	Person	#40	M
@ae1324	*	Person.person_name	#40, 'Jill Baker'	S
@ae1322	*	Person.person_address	#41, '4567 Lake Blvd., Charleston, SC 12345'	S
@ae1325	*	Person.person_phone_number	#41, '(804) 1234-7896'	S
@ae1323	*	Person.person_id	#40, '12345-PE-34'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.3	M
@ae1133	*	Organization	#44,	M
@ae1135	*	Organization.organization_id	#44, '12345-OR-67'	S
@ae1136	*	Organization.organization_name	#44, 'Makeit INC.'	S
@ae1134	*	Organization.organization_address	#45, '4567 Airport Blvd., Charleston, SC 12345'	S
@ae1137	*	Organization to Part (manufactured_by_organization) (as inverse relationship)	(@ae1218, @ae1218.2)	M
@ae1140	*	Organization to Part (Owned_by_organization) (as inverse relationship)	(@ae1218, @ae1218.2)	M
@ae1143	*	Organization to Person_in_organization (company for) (as inverse relationship)	(@ae1329, @ae1329.2, @ae1329.3)	M
@ae1329	*	Person_in_organization	#48	M
@ae1334	*	Person_in_organization to Person (as employee)	#48, @ae1321	M
@ae1333	*	Person_in_organization to Organization (as company)	#48, @ae1133	M
@ae1332	*	Person_in_organization.role	#51, 'manufacturer'	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1340	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	((@ae1218, @ae1218.2)	M
@ae1335	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1342	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	@ae35	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.2	*	Person_in_organization	#49	M
@ae1334	*	Person_in_organization to Person (as employee)	#49, @ae1321.2	M
@ae1333	*	Person_in_organization to Organization (as company)	#49, @ae1133	M
@ae1332	*	Person_in_organization.role	#53, 'supervisor'	S
@ae1339	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	@ae1218.2	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	@ae1218	M
@ae1343	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	((@ae35, @ae35.2)	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1329.3	*	Person_in_organization	#50	M
@ae1334	*	Person_in_organization to Person (as employee)	#50, @ae1321.3	M
@ae1333	*	Person_in_organization to Organization (as company)	#50, @ae1133	M
@ae1332	*	Person_in_organization.role	#52, 'owner'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1336	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	@ae1218.2	M
@ae1342	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	@ae256.2	M
@ae1344	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	<not_present>	M
@ae1321.4	*	Person	#42	M
@ae1324	*	Person.person_name	#42, 'Ted Cocker'	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1322	*	Person.person_address	#43, '5361 Sunshine Blvd., Anywhere, IA 76341'	S
@ae1325	*	Person.person_phone_number	#43, '(835) 1234-6432'	S
@ae1323	*	Person.person_id	\$42, '54321-PE-87'	S
@ae1327	*	Person to Person_in_organization (employee) (as inverse relationship)	@ae3129.4	M
@ae1133.2	*	Organization	#46	M
@ae1135	*	Organization.organization_id	#46, '54321-OR-87'	S
@ae1136	*	Organization.organization_name	#46, 'Wantit INC.'	S
@ae1134	*	Organization.organization_address	#47, '8567 Portstreet, Anywhere, IA 67854'	S
@ae1329.4	*	Person_in_organization	#55	M
@ae1334	*	Person_in_organization to Person (as employee)	#55, @ae1321.4	M
@ae1333	*	Person_in_organization to Organization (as company)	#55, @ae1133.2	M
@ae1332	*	Person_in_organization.role	#54, 'Buyer'	S
@ae1338	*	Person_in_organization to Part (manufactured_by_person) (as inverse relationship)	<not_present>	M
@ae1335	*	Person_in_organization to Part (owned_by_person) (as inverse relationship)	<not_present>	M
@ae1341	*	Person_in_organization to Approval (approval_authority) (as inverse relationship)	<not_present>	M
@ae1345	*	Person_in_organization to Customer_order (customer) (as inverse relationship)	@ae256	M
@ae1127	*	Ordered_part	#62	M
@ae1128	*	Ordered_part.quantity_required	#67, 1	S
@ae1129	*	Ordered_part.quantity_unit_of_measure	#68, 'each'	S
@ae1131	*	Ordered_part to Customer_order (quantity_ordered) (as inverse relationship)	@ae256	M
@ae1132	*	Ordered_part to Part (quantity ordered for) (as inverse relationship)	@ae1218	M
@ae762	*	Material	#80	M
@ae765	*	Material.material_id	#80, 'Steel Alloy 8640'	S
@ae764	*	Material.material_description	#81, 'Steel bar stock'	S
@ae767	*	Material.stock_size	#81, '5 x 3'	S
@ae773	*	Material to Specification (as material_specification)	#81, (@ae1756, @ae1756.2)	S
@ae770	*	Material to Material_property (as material_characteristic)	#113, #214, (@ae787, @ae787.2)	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae776	*	Material to Alternate_material (material_substitute) (as inverse relationship)	<not_present>	
@ae775	*	Material to Part (material_definition) (as inverse relationship)	(@ae1218,@ae1218.2)	M
@ae777	*	Material to Alternate_material (material_substitute) (as inverse relationship)	@ae1	M
@ae390	*	Design_exception_notice	#82	M
@ae401	*	Design_exception_notice to Part (as discrepant_part)	#83, (@ae1218,@ae1218.2)	S
@ae399	*	Design_exception_notice to Engineering_change_proposal (as result)	#121, (@ae478,@ae478.2)	S
@ae394	*	Design_exception_notice.notice_number	#82, '123-DEN-111'	S
@ae393	*	Design_exception_notice.notice_description	'If two holes are drilled simultaneously and the drill bits would run together, a recommendation would be needed to either change the depth of the hole or change the machining process.'	S
@ae396	*	Design_exception_notice. technical_recommendation	'use other machine'	S
@ae392	*	Design_exception_notice.issuing_date	#84'1996-06-26'	S
@ae1756	*	Specification	#89	M
@ae1763	*	Specification to Specification_usage_constraint (as constraint)	#89,#190, (@ae1778,@ae1778.2)	S
@ae1760	*	Specification.specification_id	#89, '123-S-111'	S
@ae1759	*	Specification.specification_description	#89, 'Wave preproduction interspection para 3.1'	S
@ae1758	*	Specification.specification_class	#89, 'Type Z'	S
@ae1764	*	Specification to Material (material_specification) (as inverse relationship)	@ae762	M
@ae1574	*	Requisition	#91	M
@ae1585	*	Requisition.requisition_number	#91, '123-R-345'	S
@ae1581	*	Requisition.quantity_ordered	#91, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#91, 'board ordered'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae1586	*	Requisition to Project_order (ordered_resource) (as inverse relationship)	@ae1428	M
@ae799	*	Material_requisition	#99	M
@ae1585	*	Requisition.requisition_number	#99, '123-MR-123'	S
@ae1581	*	Requisition.quantity_ordered	#99, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#99, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae336	*	Dedicated_fixture_requisition	#101	M
@ae1585	*	Requisition.requisition_number	#101, '123-DFR-123'	S
@ae1581	*	Requisition.quantity_ordered	#101, 4	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#101, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae656	*	Indirect_stock_requisition	#103	M
@ae1585	*	Requisition.requisition_number	#103, '123-ISR-345'	S
@ae1581	*	Requisition.quantity_ordered	#103, 1	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#103, 'none'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae723	*	Machine_requisition	#105	M
@ae1585	*	Requisition.requisition_number	#105, '12-MR-1234'	S
@ae1581	*	Requisition.quantity_ordered	#105, 1	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#105, '5-axis milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae270	*	Cutting_tool_requisition	#107	M
@ae1585	*	Requisition.requisition_number	#107, '123-CTR-345'	S
@ae1581	*	Requisition.quantity_ordered	#107, 2	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#107, 'Cutting tools for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae800	*	Modular_fixture_requisition	#109	M
@ae1585	*	Requisition.requisition_number	#109, '123-MFR-2342'	S
@ae1581	*	Requisition.quantity_ordered	#109, 5	S
@ae1583	*	Requisition.requisition_date	#93, '1996-06-26'	S
@ae1584	*	Requisition.requisition_description	#109, 'Modular fixture for milling machine'	S
@ae1582	*	Requisition.required_delivery_date	#94, '1996-09-07'	S
@ae1428	*	Project_order	#63	M
@ae1450	*	Project_order to Shop_work_order (as shop_work_status)	#163, @ae1727	M
@ae1448	*	Project_order.resource_acquisition_status	#164, @ae1587	M
@ae1443	*	Project_order to Pedigree_creation_order (as pedigree_creation_status)	#165, @ae1312	M
@ae1439	*	Project_order.technical_data_package_status	#166, @ae423	M
@ae1446	*	Project_order to Requisition (as ordered_resource)	#116, #235, (@ae1574,@ae799)	S
@ae1432	*	Project_order.project_order_id	#65, '123-PO-9877'	S
@ae1441	*	Project_order to Part (as part_status)	#72, (@ae1218,@ae1218.2)	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1437	*	Project_order to Approval (as release_authorization)	#74, @ae35	M
@ae1452	*	Project_order to Customer_order (initiated_order) (as inverse relationship)	<not_present>	M
@ae35	*	Approval	#73	M
@ae44	*	Approval to Person_in_organization (as approval_authority)	#78, #236, (@ae1329.2,@ae1329)	S
@ae39	*	Approval.status	#75, 'approved'	S
@ae37	*	Approval.approval_date	#76, '1996-06-26'	S
@ae787	*	Material_property	#113	M
@ae795	*	Material_property to Hardness (as material_hardness)	#167, (@ae638,@ae638.2)	S
@ae792	*	Material_property to Property_parameter (as property_characteristics)	#169, (@ae1488,@ae1488.2)	S
@ae797	*	Material_property to Property Material (material_characteristic_for) (as inverse relationship)	@ae1460	M
@ae796	*	Material_property to Material (material_characteristics_for) (as inverse relationship)	@ae762	M
@ae1460	*	Property	#114, #193, #287, #288	M
@ae1462	*	Property.property_name	#114, #193, #287, #288, 'external process'	S
@ae1482	*	Property to Specification (as property_description)	#118, #239, (@ae1756,@ae1756.2)	S
@ae1479	*	Property to Shape_aspect (as property_characteristic)	(@ae1662.2,@ae1662)	S
@ae1470	*	Property to Material_property (as material_characteristic)	#176, (@ae787,@ae787.2)	S
@ae1485	*	Property to Surface_property (as surface_characteristic)	#177, (@ae1821,@ae1821.2)	S
@ae1473	*	Property to Part_property (as part_property_characteristic)	#178, (@ae1262,@ae1262.2)	S
@ae1476	*	Property to Process_property (as process_characteristic)	#179, (@ae1411,@ae1411.2)	S
@ae1486	*	Property to Part (property_characteristic) (as inverse relationship)	@ae1218	M
@ae478	*	Engineering_change_proposal	#119	M
@ae479	*	Engineering_change_proposal.change_ proposal_number	#199, '123-ECP-456'	S
@ae481	*	Engineering_change_proposal to Engineering_change_order (incorporated_proposal	@ae470	M
@ae483	*	Engineering_change_proposal to Design_exception_notice (result) (as inverse relationship)	@ae390	M

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae470	*	Engineering_change_order	#121	M
@ae476	*	Engineering_change_order to Engineering_change_proposal (as incorporated_proposal)	#126, (@ae478,@ae478.2)	S
@ae475	*	Engineering_change_order to Part (as new_version)	#123, (@ae1218,@ae1218.2)	S
@ae471	*	Engineering_change_order.change_order_ number	#121, '123-ECO-346'	S
@ae477	*	Engineering_change_order to Engineering_change_proposal (incorporated_proposal)	(@ae478,@478.2)	M
@ae1778	*	Specification_usage_constraint	#127	M
@ae1780	*	Specification_usage_constraint.element	#127, 'Paragraph 3.1'	S
@ae1779	*	Specification_usage_constraint.class_id	#127, 'Class 3 Type Z'	S
@ae1781	*	Specification to Specification_usage_constraint (constrain) (as inverse relationship)	@ae1756)	M
@ae1	*	Alternate_material	#128	M
@ae2	*	Alternate_material.alternate_ranking	#129, 1	S
@ae4	*	Alternate_material to Material (as material_substitute)	#128, @ae762	M
@ae256	*	Customer_order	#131	M
@ae267	*	Customer_order to Person_in_organization (as customer)	@ae1329.4	M
@ae266	*	Customer_order to Ordered_part (as quantity_ordered)	(@ae1127,@ae1127.2)	S
@ae261	*	Customer_order.order_number	'123-CO-234'	S
@ae260	*	Customer_order.material_disposition	'ship with finished product'	S
@ae262	*	Customer_order.order_status	'waiting on TDP'	S
@ae264	*	Customer_order.special_instructions	'ship via ground transportation'	S
@ae258	*	Customer_order.delivery_date	'1996-12-12'	S
@ae269	*	Customer_order to Project_order (as initiated_order)	(@ae1428,@ae1428.2)	S
@ae1727	*	Shop_work_order	#142	M
@ae1728	*	Shop_work_order.order_id	#144, '123-SWO-234'	S
@ae1729	*	Shop_work_order to Project_order (shop_work_status) (as inverse relationship)	@ae1428	M
@ae1587	*	Resource_acquisition_order	#146	M
@ae1588	*	Resource_acquisition_order.order_id	#148, '243-RAO-576'	S
@ae1589	*	Resource_acquisition_order to Project_order (resource_acquisition) (as inverse relationship)	@ae1428	M
@ae1313	*	Pedigree_creation_order	#150	M
@ae1314	*	Pedigree_creation_order.order_id	#152, '123-PCO-546'	S
@ae1315	*	Pedigree_creation_order to Project_order (pedigree_creation_status) (as inverse relationship)	@ae1428	M

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae423	*	Digital_technical_data_package_work_order	#154	M
@ae424	*	Digital_technical_data_package_work_order.- order_id	#156, '345-DTDPWO-567'	S
@ae425	*	Digital_technical_data_package_work_order. to Project_order (technical_data_package) (as inverse relationship)	@ae1428	M
@ae638	*	Hardness	#158	M
@ae642	*	Hardness.scale	#162, 'Rockwell C'	S
@ae639	*	Hardness.high_value	#159, '40'	S
@ae640	*	Hardness.low_value	#160, '30'	S
@ae641	*	Hardness.nominal	#161, '35'	S
@ae643	*	Hardness to Material_property (naterial_hardness) (as inverse relationship)	@ae787	M
@ae1488	*	Property_parameter	#170	M
@ae1491	*	Property_parameter.parameter_name	#168, 'testparameter'	S
@ae1492	*	Property_parameter to Process_property (property_characteristic) (as inverse relationship)	@ae1411	M
@ae1493	*	Property_parameter to Surface_property (property_characteristic) (as inverse relationship)	@ae1821	M
@ae1494	*	Property_parameter to Part_property (property_characteristic) (as inverse relationship)	@ae1262	M
@ae1495	*	Property_parameter to Matenal_property (property_characteristic) (as inverse relationship)	@ae787	M
@ae1662	*	Shape_aspect	#270	M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	#270, @ae1606	M
@ae1678	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	@ae1460	M
@ae1662.2	*	Shape_aspect	#271	M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	#271, @ae1606	M
@ae1678	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	@ae1460	M
@ae1606		Round_hole	#270	M
@ae744		Machining_feature to Orientation (as placement)	@ae1145	M
@ae743		Machining_feature.usage_name	'hole'	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae136		Circular_closed_profile	#273	M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145	M
@ae815.3		Numeric_parameter	#278	M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	4	S
@ae817		Numeric_parameter.parameter_units	'inch'	S
@ae665		Linear_path	#274	M
@ae1299		Path to Orientation (as placement)	@ae1145	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae815.4		Numeric_parameter	#277	M
@ae1491		Property_parameter.parameter_name	'distance'	S
@ae818		Numeric_parameter.parameter_value	7	S
@ae817		Numeric_parameter.parameter_units	'inch'	S
@ae1821	*	Surface_property	#171	M
@ae1825	*	Surface_property to Property_parameter (as property_characteristic)	(@ae1488)	S
@ae1823	*	Surface_property.surface_finish	.T.	S
@ae1262	*	Part_property	#172	M
@ae1265	*	Part_property to Property_parameter (as property_characteristic)	(@ae1488)	S
@ae1411	*	Process_property	#173	M
@ae1412	*	Process_property.process_name	'drilling'	S
@ae1415	*	Process_property to Property_parameter (as property_characteristic)	(@ae1488)	S
@ae1417	*	Process_property to Property (process_characteristic) (as inverse relationship)	@ae1460	M
@ae1218.2	*	Part	#180	M
@ae1228	*	Part.part_name	'Testpart_2'	S
@ae1229	*	Part.part_revision_id	'NR'	S
@ae1227	*	Part.part_id	'12345-PA-67'	S
@ae1226	*	Part.part_description	'validation part'	S
@ae1233	*	Part.security_classification	'unclassified'	S
@ae1244	*	Part to Organization (as manufactured_by_organization)	(@ae1133)	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1255	*	Part to Shape (as physical_form)	@ae1647	M
@ae1248	*	Part to Person_in_organization (as manufactured_by_person)	((@ae1329)	S
@ae1237	*	Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250	*	Part to Person_in_organization (as owned_by_person)	((@ae1329.3)	S
@ae1246	*	Part to Organization (as owned_by_organization)	((@ae1133)	S
@ae1252	*	Part to Property (as property_characteristic)	<not_present>	M
@ae1240	*	Part to Material (as material_definition)	((@ae762)	S
@ae1234	*	Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242	*	Part to Ordered_part (as quantity_ordered)	((@ae1127)	S
@ae1256	*	Part to Project_order (part_status) (as inverse relationship)	@ae1428.2	M
@ae1258	*	Part to Engomeering_change_order (new_version_changes) (as inverse relationship)	@ae470.2	M
@ae1260	*	Part to Design_exception_notice (discrepant_part) (as inverse relationship)	@ae390.2	M
@ae478.2	*	Engineering_change_proposal	#188	M
@ae479	*	Engineering_change_proposal.change proposal_number	'123-ECP2-123'	S
@ae481	*	Engineering_change_proposal to Engineering_change_order (incorporated_proposal	@ae470	M
@ae483	*	Engineering_change_proposal to Design_exception_notice (result) (as inverse relationship)	@ae390	M
@ae1778.2	*	Specification_usage_constraint	#190	M
@ae1780	*	Specification_usage_constraint.element	'Paragraph 3.2'	S
@ae1779	*	Specification_usage_constraint.class_id	'Class 3, Type Z'	S
@ae1781	*	Specification to Specification_usage_constraint (constrain) (as inverse relationship)	@ae1756	M
@ae762.2	*	Material	#191	M
@ae765	*	Material.material_id	'Steel Alloy 8400'	S
@ae764	*	Material.material_description	'Steel stock bar'	S
@ae767	*	Material.stock_size	'Stock bar 5x5'	S
@ae771	*	Material to Specification (as material_specification)	<not_present>	M
@ae768	*	Material to Material_property (as material_characteristic)	<not_present>	M
@ae774	*	Material to Part (material_definition) (as inverse relationship)	((@ae1218,@ae1218.2)	M
@ae777	*	Material to Alternate_material (material_substitute) (as inverse relationship)	@ae1	M

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1.2	*	Alternate_material		M
@ae2	*	Alternate_material.alternate_ranking	2	S
@ae4	*	Alternate_material to Material (as material_substitute)	@ae762.2	M
@ae1460.2	*	Property	#193	M
@ae1462	*	Property.property_name	'internal'	S
@ae1480	*	Property to Specification (as property_description)	<not_present>	M
@ae1477	*	Property to Shape_aspect (as property_characteristic)	<not_present>	M
@ae1468	*	Property to Material_property (as material_characteristic)	<not_present>	M
@ae1483	*	Property to Surface_property (as surface_characteristic)	<not_present>	M
@ae1471	*	Property to Part_property (as part_property_characteristic)	<not_present>	M
@ae1474	*	Property to Process_property (as process_characteristic)	<not_present>	M
@1486	*	Property to Part (property_characteristic) (as inverse relationship)	@ae1218.2	M
@ae35.2	*	Approval	#194	M
@ae44	*	Approval to Person_in_organization (as approval_authority)	#199,#201 ,(@ae1329.2,@ae1329.3)	S
@ae40	*	Approval.status	'disapproved'	S
@ae37	*	Approval.approval_date	'1996-06-27'	S
@ae1127.2	*	Ordered_part	#202	M
@ae1128	*	Ordered_part.quantity_required	3	S
@ae1129	*	Ordered_part.quantity_unit_of_measure	'each'	S
@ae1131	*	Ordered_part to Customer_order (quantity_ordered) (as inverse relationship)	@ae256	M
@ae1132	*	Ordered_part to Part (quantity ordered for) (as inverse relationship)	@ae1218.2	M
@ae1428.2	*	Project_order	#208	M
@ae1450	*	Project_order to Shop_work_order (as shop_work_status)	#163,@ae1726	M
@ae1448	*	Project_order.resource_acquisition_status	@ae1587	M
@ae1443	*	Project_order to Pedigree_creation_order (as pedigree_creation_status)	#165,@ae1312	M
@ae1439	*	Project_order.technical_data_package_status	@ae423	M
@ae1444	*	Project_order to Requisition (as ordered_resource)	<not_present>	M
@ae1432	*	Project_order.project_order_id	'123-PO-9877'	S
@ae1440	*	Project_order to Part (as part_status)	#72,(@ae1218)	S

Table 3 - Application elements for Case_2 (continued)

Id	V	Application elements	Value	Req
@ae1437	*	Project_order to Approval (as release_authorization)	#74,@ae35	M
@ae1452	*	Project_order to Customer_order (initiated_order) (as inverse relationship)	<not_present>	M
@ae1756.2	*	Specification	#212	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'123-S2-111'	S
@ae1759	*	Specification.specification_description	'Wave preproduction inspection para 3.2'	S
@ae1758	*	Specification.specification_class	'Type Z'	S
@ae1764	*	Specification to Material (material_specification) (as inverse relationship)	@ae762	M
@ae787.2	*	Material_property	#214	M
@ae793	*	Material_property to Hardness (as material_hardness)	<not_present>	M
@ae790	*	Material_property to Property_parameter (as property_characteristics)	<not_present>	M
@ae797	*	Material_property to Property Material (material_characteristic_for) (as inverse relationship)	@ae1460	M
@ae796	*	Material_property to Material (material_characteristics_for) (as inverse relationship)	@ae762	M
@ae638.2	*	Hardness	#215	M
@ae642	*	Hardness.scale	'Rockwell B'	S
@ae639	*	Hardness.high_value	'50'	S
@ae640	*	Hardness.low_value	'40'	S
@ae641	*	Hardness.nominal	'45'	S
@ae643	*	Hardness to Material_property (material_hardness) (as inverse relationship)	@ae787.2	M
@ae1488.2	*	Property_parameter	#221	M
@ae1491	*	Property_parameter.parameter_name	'testparameter_2'	S
@ae1492	*	Property_parameter to Process_property (property_characteristic) (as inverse relationship)	@ae787	M
@ae1494	*	Property_parameter to Part_property (property_characteristic) (as inverse relationship)	@ae1262.2	M
@ae1821.2	*	Surface_property	#222	M
@ae1826	*	Surface_property to Property_parameter (as property_characteristic)	(@ae1488,@ae1488.2)	S
@ae1823	*	Surface_property.surface_finish	.T.	S
@ae1262.2	*	Part_property	#223	M
@ae1266	*	Part_property to Property_parameter (as property_characteristic)	(@ae1488,@ae1488.2)	S

Table 3 - Application elements for Case_2 (concluded)

Id	V	Application elements	Value	Req
@ae1411.2	*	Process_property	#224	M
@ae1412	*	Process_property.process_name	'milling'	S
@ae1416	*	Process_property to Property_parameter (as property_characteristic)	(@ae1488,@ae1488.2)	S
@ae1417	*	Process_property to Property (process_characteristic) (as inverse relationship)	@ae1460	M
@ae1877	*	Through_bottom_condition	<not_present>	M
@ae1879	*	Through_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	@ae1606	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.3.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other2, other3, other4, other5, other6, other7, other8, other13, other17, other18, other19, other20 other21, other22, other23, and other25.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 3, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3, @aim4, @aim6, @aim7, @aim8, @aim10, @aim55, @aim62,
 @aim63, @aim64, @aim66, @aim67, @aim74, @aim75, @aim77, @aim214,
 @aim215, @aim217, @aim244, @aim246, @aim295, @aim296, @aim298, @aim299,
 @aim304, @aim326, @aim331, @aim333, @aim334, @aim335, @aim336, @aim341,
 @aim342, @aim343, @aim378, @aim379, @aim380, @aim381, @aim383, @aim384,
 @aim385, @aim386, @aim387, @aim388, @aim389, @aim390, @aim391, @aim392,

@aim393,	@aim394,	@aim395,	@aim396,	@aim397,	@aim398,	@aim399,	@aim400,
@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim432,
@aim434,	@aim441,	@aim442,	@aim455,	@aim459,	@aim460,	@aim465,	@aim474,
@aim489,	@aim491,	@aim494,	@aim495,	@aim499,	@aim500,	@aim502,	@aim503,
@aim505,	@aim508,	@aim509,	@aim511,	@aim513,	@aim515,	@aim518,	@aim520,
@aim522,	@aim524,	@aim525,	@aim565,	@aim567,	@aim576,	@aim577,	@aim579,
@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim593,	@aim595,	@aim596,
@aim598,	@aim601,	@aim602,	@aim604,	@aim606,	@aim608,	@aim611,	@aim612,
@aim615,	@aim617,	@aim618,	@aim623,	@aim624,	@aim635,	@aim636,	@aim637,
@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim646,	@aim647,	@aim648,
@aim649,	@aim650,	@aim650,	@aim651,	@aim747,	@aim748,	@aim749,	@aim750,
@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim776,	@aim777,
@aim778,	@aim840,	@aim877,	@aim943				

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 3 above apply.

6.4 Hole

Test case summary:

This abstract test case contains the Hole, the Blind_bottom_condition and the relevant Subtypes, which are Countersunk_hole, Counterbore_hole, Round_hole, Through_bottom_condition, Flat_hole_bottom, Flat_with_radius_hole_bottom, Spherical_hole_bottom and Conical_hole_bottom. This case also contains Compound_feature, Compound_feature_element and Compound_feature_relationship entities.

Note - The test part for Hole is shown in the figure 1.

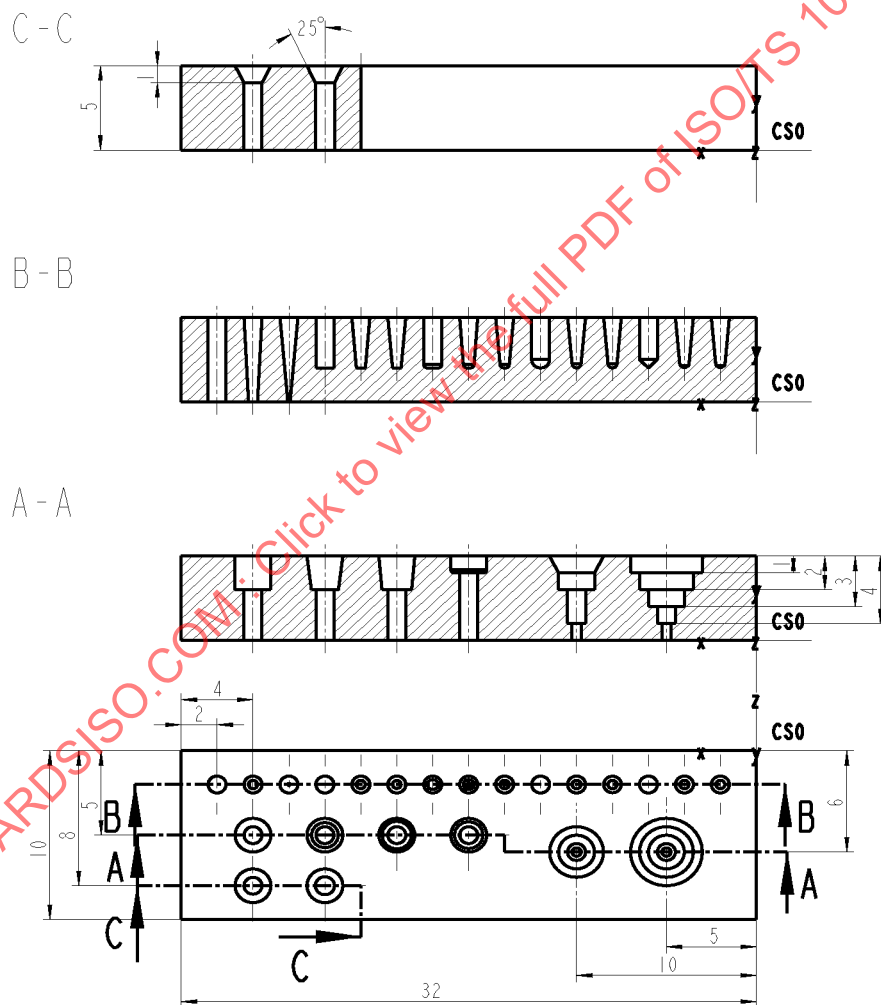


Figure 1 - Hole

6.4.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 4 - Application elements for Hole

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Block with holes'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-234'	S
@ae1226		Part.part_description	'validationpart'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648	*	Shape		M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1658	*	Shape to Shape_aspect (as element)	((@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12,@ae1662.13,@ae1662.14,@ae1662.15,@ae1662.16,@ae1662.17,@ae1662.18,@ae1662.19,@ae1662.20,@ae1662.21,@ae1662.22,@ae1662.23,@ae1662.24,@ae1662.25,@ae1662.26,@ae1662.27,@ae1662.28)	S
@ae1652	*	Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653	*	Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65	*	Block_base_shape		M
@ae654	*	Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655	*	Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68	*	Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69	*	Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae53	*	Base_shape to Shape (base_shape) (as inverse relationship)	@ae1648	M
@ae815	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Block length'	S
@ae818	*	Numeric_parameter.parameter_value	32	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae909	*	Numeric_path to Linear_path (distance) (as inverse relationship)	<not_present>	M
@ae1145	*	Orientation		M
@ae1146	*	Orientation.axis	(0,0,-1,0,1,0,1,0,0)	S
@ae1147	*	Orientation.location	(0,2.5,-5)	S
@ae1885	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	@ae65	M
@ae1187	*	Orientation to Path (placement) (as inverse relationship)	<not_present>	M
@ae815.2	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Block width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae909	*	Numeric_path to Linear_path (distance) (as inverse relationship)	<not_present>	M
@ae815.3	*	Numeric_parameter		M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'Block height'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae907	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665, @ae665.2, @ae665.3)	M
@ae1133		Organization		M
@ae1135		Organization.organization_id	'123-OID-2345'	S
@ae1136		Organization.organization_name	'MAKEIT Inc.'	S
@ae1134		Organization.organization_address	'2345 Dorchester Rd., North Charleston, SC 24879'	S
@ae1321		Person		M
@ae1324		Person.person_name	'John Miller'	S
@ae1322		Person.person_address	'1234 River Rd., Charleston, SC 32456'	S
@ae1325		Person.person_phone_number	'(803)-355-5674'	S
@ae1323		Person.person_id	'123-PID-1234'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel Block'	S
@ae767		Material.stock_size	'Block 35 x 12'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1606	*	Round_hole	#4300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Hole 1'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.2	*	Orientation	#4306	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(30,0,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665	M
@ae136	*	Circular_closed_profile	#4313	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae815.4	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Diameter 1'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae895	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	(@ae136 ,@ae136.2, @ae136.3, @ae136.4, @ae136.5, @ae136.6, @ae136.7, @ae136.8, @ae136.9,@ae136.10, @ae136.11, @ae136.12, @ae136.13, @ae136.14, @ae136.15, @ae136.16, @ae815.18, @ae136.20, @ae136.22, @ae136.25, @ae815.26)	M
@ae665	*	Linear_path	#4325	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606	M
@ae1877	*	Through_bottom_condition	#4336	M
@ae1880	*	Through_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606, @ae1606.2, @ae1606.16,@ae1606.18, @ae1606.20, @ae1606.22, @ae1606.24, @ae1606.26, @ae1606.30, @ae1606.32)	M
@ae1606.2	*	Round_hole	#4400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Hole 2'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.3	*	Orientation	#4406	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(28,0,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.2	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.2	M
@ae136.2	*	Circular_closed_profile	#4413	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.2	*	Linear_path	#4425	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.2	M
@ae408	*	Diameter_taper	#4442	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.5	M
@ae413	*	Diameter_taper to Round_hole (change_in_diameter) (as inverse relationship)	(@ae1606.2, @ae1606.8, @ae1606.11)	M
@ae815.5	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Diameter 2'	S
@ae818	*	Numeric_parameter.parameter_value	0.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae1606.3	*	Round_hole	#4500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Hole 3'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.3	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae1145.4	*	Orientation	#4506	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(26,0,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.3	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.3	M
@ae136.3	*	Circular_closed_profile	#4513	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.3	*	Linear_path	#4525	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.3	M
@ae6	*	Angle_taper	#4542	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.6	M
@ae23	*	Angle_taper to Round_hole (change_in_diameter) (as inverse relationship)	(@ae1606.3, @ae1606.6, @ae1606.9, @ae1606.12, @ae1606.21)	M
@ae815.6	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Hole Angle'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae827	*	Numeric_parameter to Angle_taper (angle) (as inverse relationship)	@ae6	M
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae1606.4	*	Round_hole	#4600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Hole 4'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544.2	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.4	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.4	M
@ae1145.5	*	Orientation	#4606	M
@ae1146	*	Orientation.axis	(1,0,0,0,0,1,0,-1,0)	S
@ae1147	*	Orientation.location	(24,5,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.4	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.4	M
@ae136.4	*	Circular_closed_profile	#4613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae814.4	M
@ae665.4	*	Linear_path	#4625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.4	M
@ae544	*	Flat_hole_bottom	#4636	M
@ae60	*	Blind_bottom_condition.start_or_end	'hole start'	S
@ae63	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	@ae1606.5	M
@ae64	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.5, @ae1606.6, @ae1606.17, @ae1606.19, @ae1606.21, @ae1606.25, @ae1606.27, @ae1606.28, @ae1606.29, @ae1606.31, @ae1606.33, @ae1606.34, @ae1606.35, @ae1606.36)	M
@ae1606.5	*	Round_hole	#4700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Hole 5'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.5	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.5	M
@ae1145.6	*	Orientation	#4706	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(22,2,2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.5	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.5	M
@ae136.5	*	Circular_closed_profile	#4713	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.5	*	Linear_path	#4725	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.5	M
@ae1606.6	*	Round_hole	#4800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Hole 6'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.6	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.6	M
@ae1145.7	*	Orientation	#4806	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(20,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.6	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.6	M
@ae136.6	*	Circular_closed_profile	#4813	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.6	*	Linear_path	#4825	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.6	M
@ae1606.7	*	Round_hole	#4900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Hole 7'	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae550.2	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.7	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.7	M
@ae1145.8	*	Orientation	#4906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,-1,0)	S
@ae1147	*	Orientation.location	(18,5,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.7	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.7	M
@ae136.7	*	Circular_closed_profile	#4913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.7	*	Linear_path	#4925	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.8	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.7	M
@ae550	*	Flat_with_radius_hole_bottom	#4936	M
@ae60	*	Blind_bottom_condition.start_or_end	'hole start'	S
@ae552	*	Flat_with_radius_hole_bottom to Numeric_parameter (as corner_radius)	@ae815.7	M
@ae64	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.8, @ae1606.9, @ae1660.23)	M
@ae815.7	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Bottom radius'	S
@ae818	*	Numeric_parameter.parameter_value	0.2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae875	*	Numeric_parameter to Flat_with_radius_hole_bottom (corner_radius) (as inverse relationship)	(@ae550,@ae550.2)	M
@ae1606.8	*	Round_hole	#5000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'Hole 8'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae550	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.8	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.8	M
@ae1145.9	*	Orientation	#5006	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(16,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.8	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.8	M
@ae136.8	*	Circular_closed_profile	#5013	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.8	*	Linear_path	#5025	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.9	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.8	M
@ae1606.9	*	Round_hole	#5100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743	*	Machining_feature.usage_name	'Hole 9'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae550	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.9	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.9	M
@ae1145.10	*	Orientation	#5106	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(14,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.9	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.9	M
@ae136.9	*	Circular_closed_profile	#5113	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.9	*	Linear_path	#5125	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.10	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.9	M
@ae1606.10	*	Round_hole	#5200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.11	M
@ae743	*	Machining_feature.usage_name	'Hole 10'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae1787.2	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.10	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.10	M
@ae1145.11	*	Orientation	#5206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,-1,0)	S
@ae1147	*	Orientation.location	(12,5,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.10	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.10	M
@ae136.10	*	Circular_closed_profile	#5213	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.10	*	Linear_path	#5225	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.11	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.10	M
@ae1787	*	Spherical_hole_bottom	#5236	M
@ae60	*	Blind_bottom_condition.start_or_end	'hole start'	S
@ae1789	*	Spherical_hole_bottom to Numeric_parameter (as radius)	@ae815.8	M
@ae64	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.11, @ae1606.12)	M
@ae815.8	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Radius hole'	S
@ae818	*	Numeric_parameter.parameter_value	0.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae815.9	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Hole depth'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter)	<not_present>	M
@ae907	*	(As inverse relationship) Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.4, @ae665.5, @ae665.6, @ae665.7, @ae665.8, @ae665.9, @ae665.10, @ae665.11, @ae665.12, @ae665.13, @ae665.14, @ae665.15, @ae665.16, @ae665.18, @ae665.20, @ae665.22)	M
@ae1606.11	*	Round_hole	#5300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.12	M
@ae743	*	Machining_feature.usage_name	'Hole 11'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae1787	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.11	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.11	M
@ae1145.12	*	Orientation	#5306	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147	*	Orientation.location	(10,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.11	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.11	M
@ae136.11	*	Circular_closed_profile	#5313	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.11	*	Linear_path	#5325	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.12	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.11	M
@ae1606.12	*	Round_hole	#5400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.13	M
@ae743	*	Machining_feature.usage_name	'Hole 12'	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae1787	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.12	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.12	M
@ae1145.13	*	Orientation	#5406	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(8,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.12	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.12	M
@ae136.12	*	Circular_closed_profile	#5413	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.12	*	Linear_path	#5425	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.13	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.12	M
@ae1606.13	*	Round_hole	#5500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.14	M
@ae743	*	Machining_feature.usage_name	'Hole 13'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae226	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.13	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.13	M
@ae1145.14	*	Orientation	#5506	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(-6,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.13	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.13	M
@ae136.13	*	Circular_closed_profile	#5513	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.13	*	Linear_path	#5525	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.14	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.13	M
@ae226	*	Conical_hole_bottom		M
@ae60	*	Blind_bottom_condition.start_or_end	'hole start'	S
@ae229	*	Conical_hole_bottom to Numeric_parameter (as tip_angle)	@ae815.10	M
@ae230	*	Conical_hole_bottom to Numeric_parameter (as tip_radius)	<not_present>	M
@ae64	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.13, @ae1606.15)	M
@ae815.10	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Tip angle'	S
@ae818	*	Numeric_parameter.parameter_value	120	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae1606.14	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.15	M
@ae743	*	Machining_feature.usage_name	'Hole 14'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae226.2	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6.2	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.14	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.14	M
@ae1145.15	*	Orientation	#5606	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(4,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.14	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.14	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae136.14	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.14	*	Linear_path	#5625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.15	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.14	M
@ae1606.15	*	Round_hole	#5700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.16	M
@ae743	*	Machining_feature.usage_name	'Hole 15'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae226	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408.4	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.15	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.15	M
@ae1145.16	*	Orientation	#5706	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(2,2,-2)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.15	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.15	M
@ae136.15	*	Circular_closed_profile	#5713	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.15	*	Linear_path	#5725	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.16	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.15	M
@ae245	*	Counterbore_hole	#7000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.17	M
@ae743	*	Machining_feature.usage_name	'CB Hole 1'	S
@ae248	*	Counterbore_hole to Round_hole (as smaller_hole)	@ae1606.16	M
@ae249	*	Counterbore_hole to Round_hole (as larger_hole)	@ae1606.17	M
@ae1145.17	*	Orientation	#5706	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(28,0,-5)	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae245,@ae1606.16)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.16	M
@ae1606.16	*	Round_hole	#5800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.17	M
@ae743	*	Machining_feature.usage_name	'CB 1small'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.16	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.16	M
@ae1626	*	Round_hole to Counterbore (small_hole) (as inverse relationship)	@ae245	M
@ae136.16	*	Circular_closed_profile	#5813	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.16	*	Linear_path	#5825	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.17	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.16	M
@ae1606.17	*	Round_hole	#5900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.18	M
@ae743	*	Machining_feature.usage_name	'CB 1 large'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.17	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.17	M
@ae1623	*	Round_hole to Counterbore (large_hole) (as inverse relationship)	@ae245	M
@ae1145.18	*	Orientation	#5906	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(28,3,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.17	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.17	M
@ae136.17	*	Circular_closed_profile	#5913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae815.11	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter large'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae895	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	(@ae136,@ae136.19, @ae136.21, @ae136.23, @ae136.24, @ae815.27, @ae136.28, @ae136.30)	M
@ae665.17	*	Linear_path	#5925	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.18	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.12	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.17	M
@ae815.12	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'depth larger hole'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae907	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.17, @ae665.19, @ae665.21, @ae665.23)	M
@ae245.2	*	Counterbore_hole	#7100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.19	M
@ae743	*	Machining_feature.usage_name	'CB Hole 2'	S
@ae248	*	Counterbore_hole to Round_hole (as smaller_hole)	@ae1606.18	M
@ae249	*	Counterbore_hole to Round_hole (as larger_hole)	@ae1606.19	M
@ae1145.19	*	Orientation	#6006	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(24,0,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@245.2, @ae1606.18)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.18	M
@ae1606.18	*	Round_hole	#6000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.19	M
@ae743	*	Machining_feature.usage_name	'CD 2 smaller'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.18	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.18	M
@ae1626	*	Round_hole to Counterbore (small_hole) (as inverse relationship)	@ae245.2	M
@ae136.18	*	Circular_closed_profile	#6013	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.18	*	Linear_path	#6025	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.19	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.18	M
@ae1606.19	*	Round_hole	#6100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.20	M
@ae743	*	Machining_feature.usage_name	'CB 2 larger'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408.2	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.19	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.19	M
@ae1623	*	Round_hole to Counterbore (large_hole) (as inverse relationship)	@ae245.2	M
@ae1145.20	*	Orientation	#6106	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,,0,1,0)	S
@ae1147	*	Orientation.location	(24,3,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.19	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.19	M
@ae136.19	*	Circular_closed_profile	#6113	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae665.19	*	Linear_path	#6125	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.20	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.12	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.19	M
@ae408.2	*	Diameter_taper	#6152	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.16	M
@ae413	*	Diameter_taper to Round_hole (change_in_diameter) (as inverse relationship)	(@ae1606.19, @ae1606.25, @ae1606.27)	M
@ae245.3	*	Counterbore_hole	#7200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.21	M
@ae743	*	Machining_feature.usage_name	'CB Hole 3'	S
@ae248	*	Counterbore_hole to Round_hole (as smaller_hole)	@ae1606.20	M
@ae249	*	Counterbore_hole to Round_hole (as larger_hole)	@ae1606.21	M
@ae1145.21	*	Orientation	#6206	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(20,0,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae245.3, @ae1606.20)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.20	M
@ae1606.20	*	Round_hole	#6200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.21	M
@ae743	*	Machining_feature.usage_name	'CB 3 smaller'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.20	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.20	M
@ae1626	*	Round_hole to Counterbore (small_hole) (as inverse relationship)	@ae245.3	M
@ae136.20	*	Circular_closed_profile	#6213	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.20	*	Linear_path	#6225	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.21	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.20	M
@ae1606.21	*	Round_hole	#6300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.22	M
@ae743	*	Machining_feature.usage_name	'CB 3 larger'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1616	*	Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.21	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.21	M
@ae1623	*	Round_hole to Counterbore (large_hole) (as inverse relationship)	@ae245.3	M
@ae1145.22	*	Orientation	#6306	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147	*	Orientation.location	(20,3,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.21	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.21	M
@ae136.21	*	Circular_closed_profile	#6313	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae665.21	*	Linear_path	#6325	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.22	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.12	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.21	M
@ae245.4	*	Counterbore_hole		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.23	M
@ae743	*	Machining_feature.usage_name	'CB Hole 4'	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae248	*	Counterbore_hole to Round_hole (as smaller_hole)	@ae1606.22	M
@ae249	*	Counterbore_hole to Round_hole (as larger_hole)	@ae1606.23	M
@ae1145.23	*	Orientation	#6406	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0,0)	S
@ae1147	*	Orientation.location	(16,0,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae245.4, @ae1606.22)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.22	M
@ae1606.22	*	Round_hole	#6400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.23	M
@ae743	*	Machining_feature.usage_name	'CB 4 smaller'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.22	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.22	M
@ae1626	*	Round_hole to Counterbore (small_hole) (as inverse relationship)	@ae245.4	M
@ae136.22	*	Circular_closed_profile	#6413	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.22	*	Linear_path	#6425	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.23	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.22	M
@ae1606.23	*	Round_hole	#6500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.24	M
@ae743	*	Machining_feature.usage_name	'CB 4 larger'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae550	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.23	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.23	M
@ae1623	*	Round_hole to Counterbore (large_hole) (as inverse relationship)	@ae245.4	M
@ae1145.24	*	Orientation	#6506	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(16,3,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.23	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.23	M
@ae136.23	*	Circular_closed_profile	#6513	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae665.23	*	Linear_path	#6525	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.24	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.12	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.23	M
@ae250	*	Countersunk_hole	#7400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.25	M
@ae743	*	Machining_feature.usage_name	'CS Hole 1'	S
@ae253	*	Countersunk_hole to Round_hole (as constant_diameter_hole)	@ae1606.24	M
@ae254	*	Countersunk_hole to Round_hole (as tapered_hole)	@ae1606.25	M
@ae1145.25	*	Orientation	#6606	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(28,0,-8)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae250, @ae1606.24)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.24	M
@ae1606.24	*	Round_hole	#6600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.25	M
@ae743	*	Machining_feature.usage_name	'CS 1 cd-hole'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.24	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.24	M
@ae1629	*	Round_hole to Countersunk (constraint_diameter)(as inverse relationship)	@ae250	M
@ae136.24	*	Circular_closed_profile	#6613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.24	M
@ae665.24	*	Linear_path	#6625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.25	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.13	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.24	M
@ae815.13	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'CS depth'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae905	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae907	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.24, @ae665.26)	M
@ae1606.25	*	Round_hole	#6700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.26	M
@ae743	*	Machining_feature.usage_name	'CS tap-hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408.2	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.25	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.25	M
@ae747	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204, @ae204.4)	M
@ae1620	*	Round_hole to Countersunk_hole (taper_hole) (as inverse relationship)	@ae250	M
@ae1145.26	*	Orientation	#6706	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0)	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1147	*	Orientation.location	(28,4,-8)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.25	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.25	M
@ae136.25	*	Circular_closed_profile	#6713	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.25	*	Linear_path	#6725	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.26	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.14	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.25	M
@ae815.14	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'CS Tapered depth'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae907	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.25, @ae665.27, @ae665.28)	M
@ae250.2	*	Countersunk_hole	#7500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.27	M
@ae743	*	Machining_feature.usage_name	'CS hole 2'	S
@ae253	*	Countersunk_hole to Round_hole (as constant_diameter_hole)	@ae1606.26	M
@ae254	*	Countersunk_hole to Round_hole (as tapered_hole)	@ae1606.27	M
@ae1145.27	*	Orientation	#6806	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(24,0,-8)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae250.2, @ae1606.26)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.26	M
@ae1606.26	*	Round_hole	#6800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.27	M
@ae743	*	Machining_feature.usage_name	'CS 2 cd-hole'	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.26	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.26	M
@ae1629	*	Round_hole to Countersunk (constraint_diameter)(as inverse relationship)	@ae250.2	M
@ae136.26	*	Circular_closed_profile	#6813	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.4	M
@ae665.26	*	Linear_path	#6825	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.27	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.13	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.26	M
@ae1606.27	*	Round_hole	#6900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.28	M
@ae743	*	Machining_feature.usage_name	'CS 2 tapered-hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408.2	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.27	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.27	M
@ae1620	*	Round_hole to Countersunk_hole (taper_hole) (as inverse relationship)	@ae250.2	M
@ae1145.28	*	Orientation	#6906	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147	*	Orientation.location	(24,4,-8)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.27	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.27	M
@ae136.27	*	Circular_closed_profile	#6913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.11	M
@ae665.27	*	Linear_path	#6925	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1299	*	Path to Orientation (as placement)	@ae1145.28	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.14	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.27	M
@ae226.2	*	Conical_hole_bottom	#6936	M
@ae60	*	Blind_bottom_condition.start_or_end	'hole start'	S
@ae229	*	Conical_hole_bottom to Numeric_parameter (as tip_angle)	@ae815.10	M
@ae230	*	Conical_hole_bottom to Numeric_parameter (as tip_radius)	@ae815.15	M
@ae63	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.14)	M
@ae815.15	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Tip radius'	S
@ae818	*	Numeric_parameter.parameter_value	0.1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae250.3	*	Countersunk_hole		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.29	M
@ae743	*	Machining_feature.usage_name	'CS Comp-feature'	S
@ae253	*	Countersunk_hole to Round_hole (as constant_diameter_hole)	@ae1606.28	M
@ae254	*	Countersunk_hole to Round_hole (as tapered_hole)	@ae1606.29	M
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.2)	M
@ae1145.29	*	Orientation	#7606	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147	*	Orientation.location	(10,3,-6)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae250.3, @ae1606.28)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.28	M
@ae815.16	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'Final Diameter'	S
@ae818	*	Numeric_parameter.parameter_value	1.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1606.28	*	Round_hole	#7600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.29	M
@ae743	*	Machining_feature.usage_name	'CS cd-hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.28	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.28	M
@ae1629	*	Round_hole to Countersunk (constraint_diameter)(as inverse relationship)	@ae250.3	M
@ae136.28	*	Circular_closed_profile	#7613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae665.28	*	Linear_path	#7625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.29	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.14	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.28	M
@ae1606.29	*	Round_hole	#7700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.29	M
@ae743	*	Machining_feature.usage_name	'CS tapered hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1618	*	Round_hole to Diameter_taper (as change_in_diameter)	@ae408.3	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.29	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.29	M
@ae1620	*	Round_hole to Countersunk_hole (taper_hole) (as inverse relationship)	@ae250.3	M
@ae136.29	*	Circular_closed_profile	#7713	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.17	M
@ae1145.30	*	Orientation	#7706	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(10,4,-6)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.29	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.29	M
@ae815.17	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae899	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.29	M
@ae665.29	*	Linear_path	#7725	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.30	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.18	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.29	M
@ae815.18	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae908	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.29)	M
@ae408.3	*	Diameter_taper	#7762	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.19	M
@ae412	*	Diameter_taper to Round_hole (change_in_diameter) (as inverse relationship)	(@ae1606.29)	M
@ae815.19	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'final diameter'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae245.5	*	Counterbore_hole		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.31	M
@ae743	*	Machining_feature.usage_name	'CB Comp-feature'	S
@ae248	*	Counterbore_hole to Round_hole (as smaller_hole)	@ae1606.30	M
@ae249	*	Counterbore_hole to Round_hole (as larger_hole)	@ae1606.31	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.3)	M
@ae1145.31	*	Orientation	#7806	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(10,0,-6)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1168	*	Orientation to Machining_feature (placement) (as inverse relationship)	(@ae245.5, @ae1606.30, @ae198)	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.31	M
@ae1606.30	*	Round_hole	#7800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.31	M
@ae743	*	Machining_feature.usage_name	'smaller hole'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.30	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.31	M
@ae1626	*	Round_hole to Counterbore (small_hole) (as inverse relationship)	@ae245.5	M
@ae136.30	*	Circular_closed_profile	#7813	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.11	M
@ae1606.31	*	Round_hole	#7900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.32	M
@ae743	*	Machining_feature.usage_name	'larger hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.31	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.30	M
@ae1623	*	Round_hole to Counterbore (large_hole) (as inverse relationship)	@ae245.5	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1145.32	*	Orientation	#7906	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(10,2,-6)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.31	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.30	M
@ae136.31	*	Circular_closed_profile	#7913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.20	M
@ae815.20	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.31	M
@ae665.30	*	Linear_path	#7925	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.32	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.21	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.30	M
@ae815.21	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae908	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.30)	M
@ae665.31	*	Linear_path	#7925	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.31	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.31	M
@ae204	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.25	M
@ae204.2	*	Compound_feature_element		M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae250.3	M
@ae209	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	@as217	M
@ae204.3	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae245.5	M
@ae209	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	@as217	M
@ae204.4	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.25	M
@ae217	*	Compound_feature_relationship		M
@ae220	*	Compound_feature_relationship to Compound_feature_element (as successor)	@ae204.2	M
@ae221	*	Compound_feature_relationship to Compound_feature_element (as predecessor)	@ae204.3	M
@ae198	*	Compound_feature	#9100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.31	M
@ae743	*	Machining_feature.usage_name	<not_present>	M
@ae201	*	Compound_feature.feature_name	'CB - CS feture'	S
@ae200	*	Compound_feature.feature_description	'Combination of a counterbore and a countersunk hole'	S
@ae202	*	Compound_feature to Compound_feature_element (as element)	(@ae204.2,@ae204.3)	S
@ae1606.32	*	Round_hole	#8300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.33	M
@ae743	*	Machining_feature.usage_name	'hole Cf 1'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.32	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.32	M
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.5)	M
@ae1145.33	*	Orientation	#8306	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(5,0,-5)	S

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.32	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.32	M
@ae136.32	*	Circular_closed_profile	#8313	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.22	M
@ae815.22	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	0.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.32	M
@ae665.32	*	Linear_path	#8325	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.33	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.23	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.32	M
@ae815.23	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae901	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	<not_present>	M
@ae907	*	Numeric_path to Linear_path (distance) (as inverse relationship)	(@ae665.32, @ae665.33, @ae665.34, @ae665.35, @ae665.36)	M
@ae1606.33	*	Round_hole	#8400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.34	M
@ae743	*	Machining_feature.usage_name	'Hole Cf 2'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.33	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.33	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.6)	M
@ae1145.34	*	Orientation	#8406	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(5,1,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.33	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.33	M
@ae136.33	*	Circular_closed_profile	#8413	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.24	M
@ae815.24	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.33	M
@ae665.33	*	Linear_path	#8425	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.34	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.23	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.33	M
@ae1606.34	*	Round_hole	#8500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.35	M
@ae743	*	Machining_feature.usage_name	'Hole Cf 3'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.34	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.34	M
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.8)	M
@ae1145.35	*	Orientation	#8506	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(5,2,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.34	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.34	M
@ae136.34	*	Circular_closed_profile	#8613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.25	M
@ae815.25	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.34	M
@ae665.34	*	Linear_path	#8625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.35	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.23	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.34	M
@ae1606.35	*	Round_hole	#8600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.36	M
@ae743	*	Machining_feature.usage_name	'Hole Cf 4'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.35	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.35	M
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.8)	M
@ae1145.36	*	Orientation	#8606	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(5,3,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.35	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.35	M
@ae136.35	*	Circular_closed_profile	#8613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.26	M
@ae815.26	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.35	M
@ae665.35	*	Linear_path	#8625	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.36	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.23	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.35	M
@ae1606.36	*	Round_hole	#8700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.37	M
@ae743	*	Machining_feature.usage_name	'Hole Cf 5'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1617	*	Round_hole to Diameter_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.36	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.36	M
@ae746	*	Machining_feature to Compound_feature_element (base_feature) (as inverse relationship)	(@ae204.9)	M
@ae1145.37	*	Orientation		M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(5,4,-5)	S
@ae1884	*	Orientation to Implicit_base_shape (placement) (as inverse relationship)	<not_present>	M
@ae1167	*	Orientation to Machining_feature (placement) (as inverse relationship)	@ae1606.36	M
@ae1188	*	Orientation to Path (placement) (as inverse relationship)	@ae665.36	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae136.36	*	Circular_closed_profile		M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae815.27	M
@ae815.27	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae898	*	Numeric_parameter to Circular_closed_profile (diameter) (As inverse relationship)	@ae136.37	M
@ae665.36	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.37	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.23	M
@ae681	*	Linear_path to Round_hole (hole_depth) (As inverse relationship)	@ae1606.36	M
@ae204.5	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.32	M
@ae209	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	@as217.2	M
@ae204.6	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.33	M
@ae210	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	(@as217.3, @ae217.2)	M
@ae204.7	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.34	M
@ae210	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	(@as217.3, @ae217.4)	M
@ae204.8	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.35	M
@ae210	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	(@as217.4, @ae217.5)	M
@ae204.9	*	Compound_feature_element		M
@ae206	*	Compound_feature_element to Compound_feature_select (as element)	@ae1606.36	M
@ae209	*	Compound_feature to Compound_feature_relationship (successor) (as inverse relationship)	@as217.5	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae217.2	*	Compound_feature_relationship		M
@ae220	*	Compound_feature_relationship to Compound_feature_element (as successor)	@ae204.6	M
@ae221	*	Compound_feature_relationship to Compound_feature_element (as predecessor)	@ae204.5	M
@ae217.3	*	Compound_feature_relationship		M
@ae220	*	Compound_feature_relationship to Compound_feature_element (as successor)	@ae204.7	M
@ae221	*	Compound_feature_relationship to Compound_feature_element (as predecessor)	@ae204.6	M
@ae217.4	*	Compound_feature_relationship		M
@ae220	*	Compound_feature_relationship to Compound_feature_element (as successor)	@ae204.8	M
@ae221	*	Compound_feature_relationship to Compound_feature_element (as predecessor)	@ae204.7	M
@ae217.5	*	Compound_feature_relationship		M
@ae220	*	Compound_feature_relationship to Compound_feature_element (as successor)	@ae204.9	M
@ae221	*	Compound_feature_relationship to Compound_feature_element (as predecessor)	@ae204.8	M
@ae198.2	*	Compound_feature	#9000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.33	M
@ae743	*	Machining_feature.usage_name	<not_present>	M
@ae201	*	Compound_feature.feature_name	'Conterbore Holes'	S
@ae200	*	Compound_feature.feature_description	'5 Conterbore holes'	S
@ae203	*	Compound_feature to Compound_feature_element (as element)	(@ae204.5,@ae204.6,@ae204.7, @ae204.8,@ae204.9)	S
@ae88	*	Brep_model	#3656	M
@ae98	*	Brep_shape_aspect_representation	#4307	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662	M
@ae98.2	*	Brep_shape_aspect_representation	#4407	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.2	M
@ae98.3	*	Brep_shape_aspect_representation	#4507	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.3	M
@ae98.4	*	Brep_shape_aspect_representation	#4607	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.4	M
@ae98.5	*	Brep_shape_aspect_representation	#4707	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.5	M
@ae98.6	*	Brep_shape_aspect_representation	#4807	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.6	M
@ae98.7	*	Brep_shape_aspect_representation	#4907	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.7	M
@ae98.8	*	Brep_shape_aspect_representation	#5007	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.8	M
@ae98.9	*	Brep_shape_aspect_representation	#5107	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.9	M
@ae98.10	*	Brep_shape_aspect_representation	#5207	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.10	M
@ae98.11	*	Brep_shape_aspect_representation	#5307	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.11	M
@ae98.12	*	Brep_shape_aspect_representation	#5407	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.12	M
@ae98.13	*	Brep_shape_aspect_representation	#5507	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.13	M
@ae98.14	*	Brep_shape_aspect_representation	#5607	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.14	M
@ae98.15	*	Brep_shape_aspect_representation	#5707	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.15	M
@ae98.16	*	Brep_shape_aspect_representation	#7007	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.16	M
@ae98.17	*	Brep_shape_aspect_representation	#7107	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.17	M
@ae98.18	*	Brep_shape_aspect_representation	#7207	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.18	M
@ae98.19	*	Brep_shape_aspect_representation	#7307	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.19	M
@ae98.20	*	Brep_shape_aspect_representation	#7407	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.20	M
@ae98.21	*	Brep_shape_aspect_representation	#7507	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.21	M
@ae98.22	*	Brep_shape_aspect_representation	#7607	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.22	M
@ae98.23	*	Brep_shape_aspect_representation	#7807	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.23	M
@ae98.24	*	Brep_shape_aspect_representation	#7907	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.24	M
@ae98.25	*	Brep_shape_aspect_representation	#8307	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.25	M
@ae98.26	*	Brep_shape_aspect_representation	#8407	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.26	M
@ae98.27	*	Brep_shape_aspect_representation	#8507	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.27	M
@ae98.28	*	Brep_shape_aspect_representation	#8607	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae101	*	Brep_shape_aspect_represnetation to Shape_aspect (Brep_form) (as inverse relationship)	@ae1662.28	M
@ae1662	*	Shape_aspect	#4300	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.2	*	Shape_aspect	#4400	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.3	*	Shape_aspect	#4500	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.3	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.4	*	Shape_aspect	#4600	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.4	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.5	*	Shape_aspect	#4700	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.5	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.6	*	Shape_aspect	#4800	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.6	M
@ae1677		Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.7	*	Shape_aspect	#4900	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.7	M
@ae1677		Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.8	*	Shape_aspect	#5000	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.8)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.8	M
@ae1677		Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.9	*	Shape_aspect	#5100	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.9)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.9	M
@ae1677		Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.10	*	Shape_aspect	#5200	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.10)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.10	M
@ae1677		Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.11	*	Shape_aspect	#5300	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.11)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.11	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.12	*	Shape_aspect	#5400	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.12)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.12	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.13	*	Shape_aspect	#5500	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.13)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.13	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.14	*	Shape_aspect	#5600	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.14)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.14	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.15	*	Shape_aspect	#5700	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.15)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.15	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.16	*	Shape_aspect	#7000	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.16)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae245	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.17	*	Shape_aspect	#7100	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.17)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae245.2	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.18	*	Shape_aspect	#7200	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.18)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae245.3	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.19	*	Shape_aspect	#7300	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.19)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae245.4	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.20	*	Shape_aspect	#7400	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.20)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae250	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.21	*	Shape_aspect	#7500	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.21)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae250.2	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.22	*	Shape_aspect	#9000	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.22)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae250.3	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.23	*	Shape_aspect	#9100	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.23)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae245.5	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M

Table 4 - Application elements for Hole (continued)

Id	V	Application elements	Value	Req
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.24	*	Shape_aspect	#8200	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.24)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.32	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.25	*	Shape_aspect	#8300	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.25)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.33	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.26	*	Shape_aspect	#8400	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.26)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.34	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.27	*	Shape_aspect	#8500	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.27)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.35	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae1662.28	*	Shape_aspect	#8600	M

Table 4 - Application elements for Hole (concluded)

Id	V	Application elements	Value	Req
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.28)	S
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.36	M
@ae1677	*	Shape_aspect to Property (property_characteristic) (as inverse relationship)	<not_present>	M
@ae1680	*	Shape_aspect to Shape (element) (as inverse relationship)	@ae1648	M
@ae6.2	*	Angle_taper	#5452	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.28	M
@ae22	*	Angle_taper to Round_hole (change_in_diameter) (as inverse relationship)	@ae1606.14	M
@ae815.28	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'taper_angle'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae408.4	*	Diameter_taper	#5352	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.29	M
@ae412	*	Diameter_taper to Round_hole (change_in_diameter) (as inverse relationship)	(@ae1606.15)	M
@ae815.29	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	0.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae544.2	*	Flat_hole_bottom	#4636	M
@ae61	*	Blind_bottom_condition.start_or_end	'hole end'	S
@ae63	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.4)	M
@ae550.2	*	Flat_with_radius_hole_bottom	#4936	M
@ae61	*	Blind_bottom_condition.start_or_end	'hole end'	S
@ae552	*	Flat_with_radius_hole_bottom to Numeric_parameter (as corner_radius)	@ae815.7	M
@ae63	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.7)	M
@ae1787.2	*	Spherical_hole_bottom	#5236	M
@ae61	*	Blind_bottom_condition.start_or_end	'hole end'	S
@ae1789	*	Spherical_hole_bottom to Numeric_parameter (as radius)	@ae815.8	M
@ae63	*	Blind_bottom_condition to Round_hole (bottom_condition) (as inverse relationship)	(@ae1606.10)	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.4.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 4, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,
@aim243,	@aim244,	@aim245,	@aim256,	@aim291,	@aim295,	@aim296,	@aim301,
@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,	@aim345,	@aim346,
@aim348,	@aim364,	@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,
@aim385,	@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim403,
@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim432,	@aim433,
@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,	@aim465,	@aim474,
@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim565,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,
@aim623,	@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,
@aim642,	@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim754,	@aim750,
@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim774,
@aim775,	@aim776,	@aim777,	@aim778,	@aim831,	@aim834,	@aim840,	@aim854,
@aim855,	@aim869,	@aim938,	@aim943,	@aim946			

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 4 above apply.

6.5 Boss

Test case summary:

This abstract test case contains the Boss, the Boss_top_condition and also the relevant Subtypes, which are General_boss, Circular_boss, Planar_top_condition and General_top_condition.

Note - The test part for Boss is shown in the figure 2.

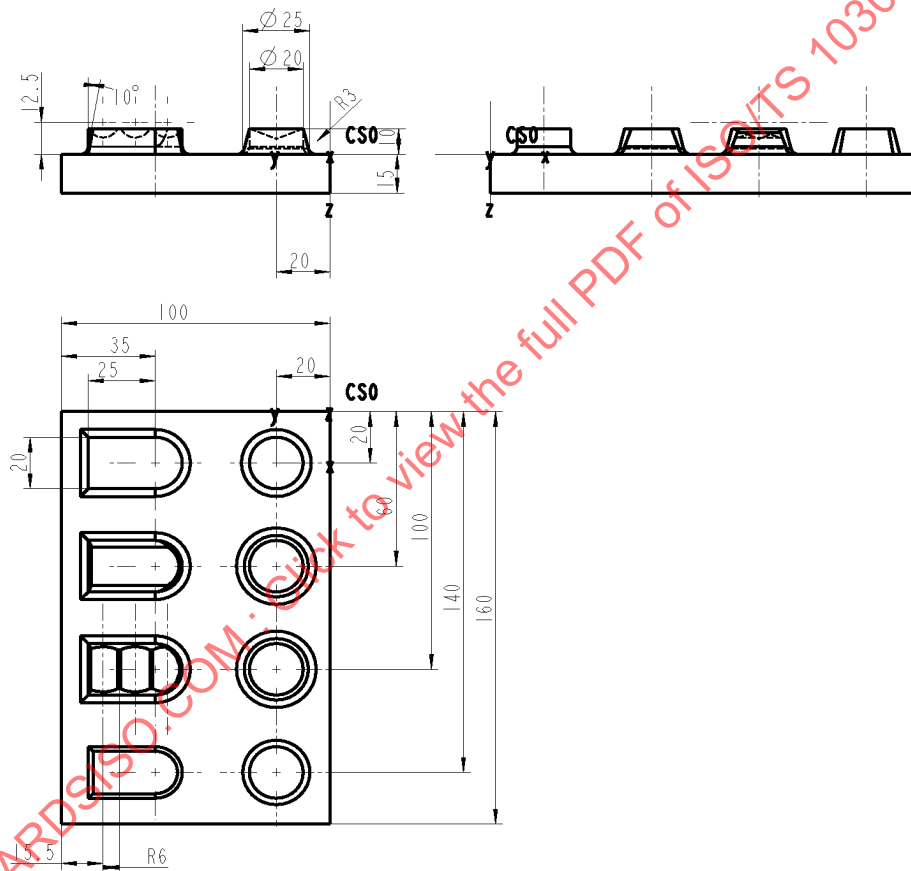


Figure 2 - Boss

6.5.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 5 - Application elements for Boss

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Testpart Boss'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-987'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648	*	Shape	#2659	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1658	*	Shape to Shape_aspect (as element)	((@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.13,@ae1662.14,@ae1662.15,@ae1662.16,@ae1662.17,@ae1662.18,@ae1662.19,@ae1662.20,@ae1662.21,@ae1662.22,@ae1662.23,@ae1662.24,@ae1662.25,@ae1662.26)	S
@ae1652	*	Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653	*	Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65	*	Block_base_shape	#58	M
@ae654	*	Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655	*	Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68	*	Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69	*	Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815	*	Numeric_parameter	#47	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	160	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1145	*	Orientation	#42	M
@ae1146	*	Orientation.axis	(0,-1,0,0,0,-1,1,0,0)	S
@ae1147	*	Orientation.location	(0,60,7.5)	S
@ae815.2	*	Numeric_parameter	#52	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	100	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.3	*	Numeric_parameter	#57	M
@ae1491	*	Property_parameter.parameter_name	'height'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Jo Denver'	S
@ae1322		Person.person_address	'5674 Bakerstreet, Somewhere, IA 23451'	S
@ae1325		Person.person_phone_number	'(456)-123-5312'	S
@ae1323		Person.person_id	'123-PI-564'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'1223-OI-564'	S
@ae1136		Organization.organization_name	'Tyrell Cop.'	S

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1134		Organization.organization_address	'2345 Main street LosAngeles, CA 45533'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2 '	S
@ae764		Material.material_description	'Steel Bar stock'	S
@ae767		Material.stock_size	'bar stock 100x120'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae128	*	Circular_boss	#3800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Circular Boss 1'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae131	*	Circular_boss to Circular_closed_profile (as circular_profile)	@ae136	M
@ae132	*	Circular_boss to Taper_select (as change_in_diameter)	<not_present>	M
@ae1145.2	*	Orientation	#3806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(-20,20,10)	S
@ae1368	*	Planar_top_condition	#3838	M
@ae83			'boss start'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436	M
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae128	M
@ae708	*	Location_element	#3851	M
@ae436	*	Direction_element	#3846	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae456	*	Direction_element to Planar_top_condition (top_normal_direction) (as inverse relationship)	@ae1368	M
@ae665	*	Linear_path	#3813	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae815.4	*	Numeric_parameter	#3814	M
@ae1491	*	Property_parameter.parameter_name	'height'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.5	*	Numeric_parameter	#3810	M
@ae1491	*	Property_parameter.parameter_name	'fillet radius'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae136	*	Circular_closed_profile	#3826	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.2	M
@ae140	*	Circular_closed_profile to Circular_boss (diameter) (as inverse relationship)	@ae128	M
@ae815.6	*	Numeric_parameter	#3829	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae128.2	*	Circular_boss	#3900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Circular Boss 2'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368.2	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.2	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae131	*	Circular_boss to Circular_closed_profile (as circular_profile)	@ae136.2	M
@ae135	*	Circular_boss to Taper_select (as change_in_diameter)	@ae408	M
@ae1145.3	*	Orientation	#3906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(60,20,10)	S
@ae1368.2	*	Planar_top_condition	#3938	M
@ae83	*	Boss_top_condition.start_or_end	'boss start'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708.2	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436.2	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae128.2	M
@ae708.2	*	Location_element	#3946	M
@ae436.2	*	Direction_element	#3951	M
@ae456	*	Direction_element to Planar_top_condition (top_normal_direction) (as inverse relationship)	@ae1368	M
@ae665.2	*	Linear_path	#3913	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae136.2	*	Circular_closed_profile	#3926	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae140	*	Circular_closed_profile to Circular_boss (diameter) (as inverse relationship)	@ae128.2	M
@ae408	*	Diameter_taper	#3959	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.7	M
@ae415	*	Diameter_taper to Circular_boss (change_in_boundary) (as inverse relationship)	@ae128.2	M
@ae815.7	*	Numeric_parameter	#3963	M
@ae1491	*	Property_parameter.parameter_name	'Final diameter'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae128.3	*	Circular_boss	#4000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Circular Boss 3'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae594	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.3	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae131	*	Circular_boss to Circular_closed_profile (as circular_profile)	@ae136.3	M
@ae133	*	Circular_boss to Taper_select (as change_in_diameter)	@ae6	M
@ae1145.4	*	Orientation	#4006	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,0,-1)	S
@ae1147	*	Orientation.location	(100,20,0)	S
@ae594	*	General_top_condition	#4038	M
@ae84	*	Boss_top_condition.start_or_end	'boss end'	S
@ae596	*	General_top_condition to Face_shape_element (as top_face)	@ae494	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae128.3	M
@ae494	*	Face_shape_element	#4043	M
@ae523	*	Face_shape_element to General_top_conditon (top_face) (as inverse relationship)	@ae594	M
@ae665.3	*	Linear_path	#4013	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae136.3	*	Circular_closed_profile	#4026	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.4	M
@ae140	*	Circular_closed_profile to Circular_boss (diameter) (as inverse relationship)	@ae128.3	M
@ae6	*	Angle_taper	#4059	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.8	M
@ae13	*	Angle_taper to General_boss (change_in_boundary) (as inverse relationship)	@ae655.2	M
@ae815.8	*	Numeric_parameter	#4063	M
@ae1491	*	Property_parameter.parameter_name	'taper angle'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae555	*	General_boss	#4100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'General Boss 1'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368.3	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.4	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae558	*	General_boss to Closed_profile (as enclosed_boundary)	@ae561	M
@ae559	*	General_boss to Angle_taper (as change_in_boundary)	<not_present>	M
@ae1145.5	*	Orientation	#4206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,65.1)	S
@ae1368.3	*	Planar_top_condition	#4238	M
@ae83	*	Boss_top_condition.start_or_end	'boss start'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708.3	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436.3	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae555	M
@ae708.3	*	Location_element	#4251	M
@ae436.3	*	Direction_element	#4246	M
@ae665.4	*	Linear_path	#4213	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae561	*	General_closed_profile	#4226	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.5	M
@ae191	*	Closed_profile to General_boss (enclosed_boundary) (as inverse relationship)	@ae555	M
@ae1303	*	Path_element	#4231	M
@ae1311	*	Path_element to General_closed_profile (closed_shape) (as inverse relationship)	@ae561	M
@ae555.2	*	General_boss	#4300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'General Boss 2'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368.4	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.5	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae558	*	General_boss to Closed_profile (as enclosed_boundary)	@ae561.2	M
@ae560	*	General_boss to Angle_taper (as change_in_boundary)	@ae6	M
@ae1145.6	*	Orientation	#4306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(65,60,10)	S
@ae1368.4	*	Planar_top_condition	#4338	M
@ae83	*	Boss_top_condition.start_or_end	'boss start'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708.4	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436.4	M
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae555.2	M
@ae708.4	*	Location_element	#4351	M
@ae436.4	*	Direction_element	#5346	M
@ae665.5	*	Linear_path	#4313	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae561.2	*	General_closed_profile	#4400	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.6	M
@ae191	*	Closed_profile to General_boss (enclosed_boundary) (as inverse relationship)	@ae555.2	M
@ae1303.2	*	Path_element	#4413	M
@ae555.3	*	General_boss	#4500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'General Boss 3'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae594.2	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.6	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae558	*	General_boss to Closed_profile (as enclosed_boundary)	@ae561.3	M
@ae560	*	General_boss to Angle_taper (as change_in_boundary)	@ae6.2	M
@ae1145.7	*	Orientation	#4506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(65,100,10)	S
@ae594.2	*	General_top_condition	#4538	M
@ae83	*	Boss_top_condition.start_or_end	'boss start'	S
@ae596	*	General_top_condition to Face_shape_element (as top_face)	@ae494.2	M
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae128.3	M
@ae494.2	*	Face_shape_element	#4543	M
@ae665.6	*	Linear_path	#4513	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae561.3	*	General_closed_profile	#4526	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.7	M
@ae191	*	Closed_profile to General_boss (enclosed_boundary) (as inverse relationship)	@ae555.3	M
@ae1303.3	*	Path_element	#4531	M
@ae88	*	Brep_model	#2123	M
@ae90	*	Brep_model to Brep_model_element (element) (as inverse relationship)	(@ae94, @ae94.2, @ae94.3, @ae94.4, @ae94.5, @ae94.6, @ae94.7 @ae94.8, @ae94.9, @ae94.10, @ae94.11, @ae94.12, @ae94.13, @ae94.14, @ae94.15, @ae94.16, @ae94.17, @ae94.18)	

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae93		Brep_model to Brep_shape_aspect)representation (shape_definition) (as inverse relationship)	(@ae98, @ae98.2, @ae98.3, @ae98.4, @ae98.5, @ae98.6, @ae98.7, @ae98.8, @ae98.9, @ae98.10, @ae98.11, @ae98.12, @ae98.13, @ae98.14, @ae98.15, @ae98.16, @ae98.17, @ae98.18, @ae98.19, @ae98.20, @ae98.21, @ae98.22, @ae98.23, @ae98.24, @ae98.25, @ae98.26)	M
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.8		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.9		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.10		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.11		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.12		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662	M
@ae94.2		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.2	M
@ae94.3		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.3	M
@ae94.4		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.4	M
@ae94.5		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.5	M
@ae94.6		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.6	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708	M
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.3		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.3)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.2	M
@ae1662.4		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.4)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.2	M
@ae1662.5		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494	M
@ae1662.6		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.6)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.3	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.7)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.3	M
@ae1662.8		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.8)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.8)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.9		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.9)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.9)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.4	M
@ae1662.10		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.10)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.10)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.4	M
@ae1662.11		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.11)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.11)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.2	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1662.12		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.12)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.12)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.2	M
@ae94.7		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.7	M
@ae94.8		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.8	M
@ae94.9		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.9	M
@ae94.10		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.10	M
@ae94.11		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.11	M
@ae94.12		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.12	M
@ae98.13		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.13		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.13	M
@ae1662.13		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.13)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.13)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.3	M
@ae98.14		Brep_shape_aspect_representation		M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.15 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.16 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.17 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.18 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.19 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae1662.14 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.14) <not_present> @ae128	M S M M
@ae1662.15 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.15) <not_present> @ae128.2	M S M M
@ae1662.16 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.16) <not_present> @ae128.3	M S M M
@ae1662.17 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.17) <not_present> @ae555	M S M M
@ae1662.18 @ae1670		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.18)	M S

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae555.2	M
@ae1662.19		Shape_aspect	(@ae98.19)	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)		S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae555.3	M
@ae6.2	*	Angle_taper		M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.9	M
@ae13	*	Angle_taper to General_boss (change_in_boundary) (as inverse relationship)	@ae655.3	M
@ae22	*	Angle_taper to Circular_boss (change_in_boundary) (as inverse relationship)	@ae128.3	M
@ae815.9	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'taper angle'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae128.4	*	Circular_boss	#4100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Circular Boss 4'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368.5	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.7	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.13	M
@ae131	*	Circular_boss to Circular_closed_profile (as circular_profile)	@ae136.4	M
@ae135	*	Circular_boss to Taper_select (as change_in_diameter)	@ae408.2	M
@ae1145.8	*	Orientation	#4106	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(140,20,0)	S
@ae1368.5	*	Planar_top_condition	#4138	M
@ae84	*	Boss_top_condition.start_or_end	'boss end'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708.5	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436.5	M
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae128.4	M
@ae708.5	*	Location_element	#4151	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae436.5	*	Direction_element	#4146	M
@ae665.7	*	Linear_path	#4113	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.8	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.10	M
@ae815.10	*	Numeric_parameter	#4114	M
@ae1491	*	Property_parameter.parameter_name	'height'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae136.4	*	Circular_closed_profile	#4126	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.8	M
@ae140	*	Circular_closed_profile to Circular_boss (diameter) (as inverse relationship)	@ae128.4	M
@ae815.11	*	Numeric_parameter	#4130	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae408.2	*	Diameter_taper	#4159	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.12	M
@ae415	*	Diameter_taper to Circular_boss (change_in_boundary) (as inverse relationship)	@ae128.3	M
@ae815.12	*	Numeric_parameter	#4162	M
@ae1491	*	Property_parameter.parameter_name	'final diameter'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.13	*	Numeric_parameter	#4166	M
@ae1491	*	Property_parameter.parameter_name	'No radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae555.4	*	General_boss	#4500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'General Boss 4'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368.6	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.8	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.15	M
@ae558	*	General_boss to Closed_profile (as enclosed_boundary)	@ae561.4	M
@ae560	*	General_boss to Angle_taper (as change_in_boundary)	@ae6.3	M
@ae1145.9	*	Orientation	#4506	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,0,-1)	S

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae1147	*	Orientation.location	(140,65,0)	S
@ae1368.6	*	Planar_top_condition	#4538	M
@ae84	*	Boss_top_condition.start_or_end	'boss end'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708.6	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436.6	M
@ae86	*	Boss_top_condition to Boss (top_condition) (as inverse relationship)	@ae555.4	M
@ae708.6	*	Location_element	#4551	M
@ae436.6	*	Direction_element	#4546	M
@ae665.8	*	Linear_path	#4513	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.9	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.14	M
@ae815.14	*	Numeric_parameter	#4514	M
@ae1491	*	Property_parameter.parameter_name	'height'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.15	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'No radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae561.4	*	General_closed_profile	#4526	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.9	M
@ae191	*	Closed_profile to General_boss (enclosed_boundary) (as inverse relationship)	@ae555.4	M
@ae1303.4	*	Path_element	#4626	M
@ae6.3		Angle_taper		M
@ae8		Angle_taper to Numeric_parameter (as angle)	@ae815.16	M
@ae13		Angle_taper to General_boss (change_in_boundary) (as inverse relationship)	@ae655.3	M
@ae815.16		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'taper angle'	S
@ae818		Numeric_parameter.parameter_value	10	S
@ae817		Numeric_parameter.parameter_units	'Degree'	S
@ae98.20		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.21		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M

Table 5 - Application elements for Boss (continued)

Id	V	Application elements	Value	Req
@ae98.22		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.23		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.24		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.25		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.26		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.14		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.14	M
@ae94.15		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.15	M
@ae94.16		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.16	M
@ae94.17		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.17	M
@ae94.18		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae97		Brep_model_element to Shape_aspect (Brep_shape) (as inverse relationship)	@ae1662.18	M
@ae1662.20		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.20)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.14)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.5	M
@ae1662.21		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.21)	S

Table 5 - Application elements for Boss (concluded)

Id	V	Application elements	Value	Req
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.15)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.5	M
@ae1662.22		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.22)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.16)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.6	M
@ae1662.23		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.23)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.17)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.6	M
@ae1662.24		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.24)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.18)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.4	M
@ae1662.25		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.25)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae128.4	M
@ae1662.26		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.26)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae555.4	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.5.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 5, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim93,	@aim94,	@aim101,	@aim107,	@aim108,
@aim201,	@aim203,	@aim205,	@aim206,	@aim214,	@aim215,	@aim217,	@aim243,
@aim244,	@aim245,	@aim252,	@aim253,	@aim256,	@aim291,	@aim295,	@aim296,
@aim301,	@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,	@aim345,
@aim346,	@aim348,	@aim364,	@aim365,	@aim370,	@aim371,	@aim372,	@aim378,
@aim379,	@aim384,	@aim385,	@aim393,	@aim394,	@aim396,	@aim397,	@aim399,
@aim400,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,
@aim441,	@aim442,	@aim444,	@aim447,	@aim448,	@aim455,	@aim456,	@aim459,
@aim465,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,
@aim536,	@aim565,	@aim566,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,
@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,	@aim636,
@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,
@aim747,	@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,
@aim769,	@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim831,	@aim840,
@aim854,	@aim855,	@aim869,	@aim938,	@aim943,	@aim946,		

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 5 above apply.

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6.6 Outer_round

Test case summary:

This abstract test case contains the Outer_round and the relevant Subtypes, which are Outer_diameter and Outer_diameter_to_should.

Note - The Outer_round test part is shown in the figure 3.

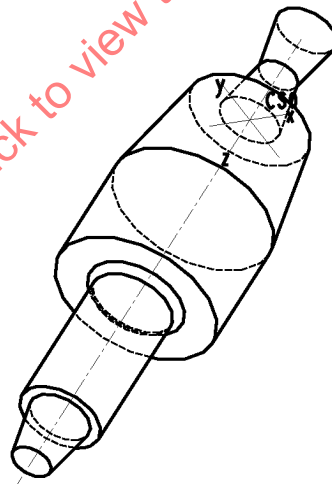
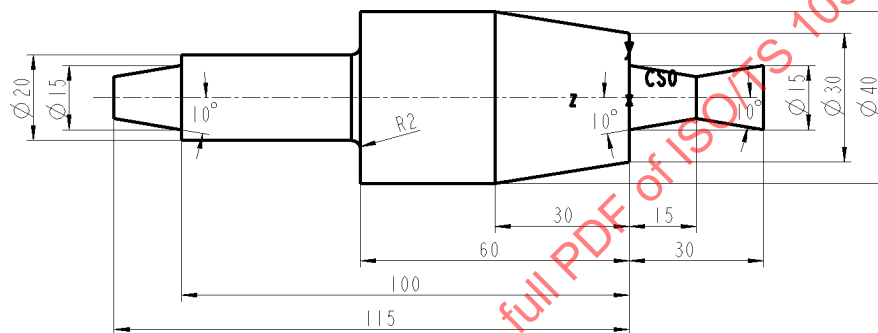


Figure 3 - Outer_round

6.6.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 6 - Application elements for Outer_round

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Outer_Round'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-111'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae271	M

Table 6 - Application elements for Outer_round (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	80	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,30)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	40	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'123-OI-345'	S
@ae1136		Organization.organization_name	'Industrial Inc.'	S
@ae1134		Organization.organization_address	'6342 Rivers Ave., Charleston, SC 1234'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Axel Handky'	S
@ae1322		Person.person_address	'6601 Dorchester Rd., N. Charleston, SC 29418'	S
@ae1325		Person.person_phone_number	'(803)-767-9535'	S
@ae1323		Person.person_id	'123-PI-234'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel, Cylindrical'	S
@ae767		Material.stock_size	'130 x 45'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M

Table 6 - Application elements for Outer_round (continued)

Id	V	Application elements	Value	Req
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae88		Brep_model		M
@ae1193	*	Outer_diameter	#634	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Outer diameter with taper'	S
@ae1202	*	Outer_diameter to Taper_select (as reduced_size)	@ae408	M
@ae1198	*	Outer_diameter to Numeric_parameter (as feature_length)	@ae815.3	M
@ae1197	*	Outer_diameter to Numeric_parameter (as diameter)	@ae815.4	M
@ae1145.2	*	Orientation	#640	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae815.3	*	Numeric_parameter	#649	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.4	*	Numeric_parameter	#658	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae408	*	Diameter_taper	#665	M
@ae410	*	Diameter_taper to Numeric_parameter (as final_diameter)	@ae815.2	M
@ae418	*	Diameter_taper to Outer_diameter (change_in_boundary) (as inverse relationship)	@ae1193	M
@ae1193.2	*	Outer_diameter	#686	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Outer diameter with taper 1'	S
@ae1200	*	Outer_diameter to Taper_select (as reduced_size)	@ae6	M
@ae1198	*	Outer_diameter to Numeric_parameter (as feature_length)	@ae815.5	M
@ae1197	*	Outer_diameter to Numeric_parameter (as diameter)	@ae815.6	M
@ae1145.3	*	Orientation	#692	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,0,-1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae815.5	*	Numeric_parameter	#710	M

Table 6 - Application elements for Outer_round (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.6	*	Numeric_parameter	#701	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae6	*	Angle_taper	#717	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.7	M
@ae815.7	*	Numeric_parameter	#726	M
@ae1491	*	Property_parameter.parameter_name	'taper angle'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1203	*	Outer_diameter_to_shoulder	#790	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Outer to shoulder'	S
@ae1206	*	Outer_diameter_to_shoulder to Numeric_parameter (as diameter)	@ae815.8	M
@ae1207	*	Outer_diameter_to_shoulder to Vee_profile (as v_shape_boundary)	@ae1964	M
@ae1145.4	*	Orientation	#796	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,60)	S
@ae815.8	*	Numeric_parameter	#805	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1964	*	Vee_profile	#816	M
@ae1421	*	Profile to Orientation (as placement)	#836, @ae1145.5	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	#836, @ae815.9	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	#836, @ae815.10	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	#836, @ae815.11	M
@ae1145.5	*	Orientation	#813	M
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,-1,0,0)	S
@ae1147	*	Orientation.location	(0,10,60)	S
@ae815.9	*	Numeric_parameter	#835	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.10	*	Numeric_parameter	#826	M

Table 6 - Application elements for Outer_round (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.11	*	Numeric_parameter	#821	M
@ae1491	*	Property_parameter.parameter_name	'profile angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1193.3	*	Outer_diameter	#847	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Outer diameter with taper 2'	S
@ae1200	*	Outer_diameter to Taper_select (as reduced_size)	@ae6	M
@ae1198	*	Outer_diameter to Numeric_parameter (as feature_length)	@ae815.5	M
@ae1197	*	Outer_diameter to Numeric_parameter (as diameter)	@ae815.6	M
@ae1145.6	*	Orientation	#853	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,100)	S
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193	M
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193.2	M
@ae1662.3		Shape_aspect		M

Table 6 - Application elements for Outer_round (concluded)

Id	V	Application elements	Value	Req
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1203	M
@ae1662.4		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193.3	M
@ae1193.4	*	Outer_diameter	#738	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Outer Diameterwith taper 3'	S
@ae1200	*	Outer_diameter to Taper_select (as reduced_size)	@ae6.2	M
@ae1198	*	Outer_diameter to Numeric_parameter (as feature_length)	@ae815.13	M
@ae1197	*	Outer_diameter to Numeric_parameter (as diameter)	@ae815.14	M
@ae1145.7	*	Orientation	#744	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,-30)	S
@ae6.2	*	Angle_taper	#769	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.12	M
@ae815.12	*	Numeric_parameter	#778	M
@ae1491	*	Property_parameter.parameter_name	'angle taper'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.13	*	Numeric_parameter	#762	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.14	*	Numeric_parameter	#753	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	9.71	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193.4	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.6.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 6, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim214,	@aim215,	@aim217,	@aim242,	@aim243,
@aim256,	@aim258,	@aim291,	@aim295,	@aim296,	@aim298,	@aim300,	@aim301,
@aim326,	@aim331,	@aim333,	@aim334,	@aim345,	@aim346,	@aim348,	@aim364,
@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,
@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim403,	@aim404,
@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim441,	@aim442,	@aim444,
@aim455,	@aim456,	@aim459,	@aim465,	@aim474,	@aim489,	@aim491,	@aim494,
@aim496,	@aim499,	@aim535,	@aim536,	@aim576,	@aim577,	@aim579,	@aim583,
@aim586,	@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,
@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,
@aim651,	@aim747,	@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,
@aim768,	@aim769,	@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim831,
@aim840,	@aim854,	@aim855,	@aim869,	@aim938,	@aim939,	@aim940,	@aim943,
@aim946,							

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 6 above apply.

Test case summary:

Note - The Slot test part is shown in the figure 4.



6.7.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 7 - Application elements for Slot_1

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Slot_1'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-567'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(50,-25,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	200	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Frank Samoiskey'	S
@ae1322		Person.person_address	'2345 Bourbenstreet, Somewhere, NC 32456'	S
@ae1325		Person.person_phone_number	'(803)-6151-661739'	S
@ae1323		Person.person_id	'121-PI-1239'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'3564-OI-324'	S
@ae1136		Organization.organization_name	'Delivery Inc.'	S
@ae1134		Organization.organization_address	'23451 Industial Blvd., NC 23456'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'bar stock 100x160x50'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1737	*	Slot	#2100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Slot 1'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1977,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.2	*	Orientation	#2106	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,-10,40)	S
@ae815.4	*	Numeric_parameter	#2110	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#2142	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae815.5	*	Numeric_parameter	#2146	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790	*	Square_u_profile	#2122	M
@ae1421	*	Profile to Orientation (as placement)	#2133, @ae1145.2	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	#2133, @ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	#2133, @ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	#2133, @ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	#2133, @ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	#2133, @ae815.8	M
@ae815.6	*	Numeric_parameter	#2128	M

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.7	*	Numeric_parameter	#2129	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#2126	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1126	*	Open_slot_end_type	#2130	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1737.2	*	Slot	#2200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Slot 2'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1977.2,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.2	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1964	M
@ae1145.3	*	Orientation	#2206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,1)	S
@ae1147	*	Orientation.location	(50,-10,40)	S
@ae665.2	*	Linear_path	#2242	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1964	*	Vee_profile	#2222	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	@ae815.9	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	@ae815.10	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	@ae815.11	M
@ae815.9	*	Numeric_parameter	#2226	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.10	*	Numeric_parameter	#2228	M
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	55	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.11	*	Numeric_parameter	#2227	M

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'profile angle'	S
@ae818	*	Numeric_parameter.parameter_value	70	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1737.3	*	Slot	#2300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Slot 3'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126.2,@ae1977.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.12	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.3	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1846	M
@ae1145.4	*	Orientation	#2306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(80,-15,40)	S
@ae815.12	*	Numeric_parameter	#2310	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.3	*	Linear_path	#2342	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.13	M
@ae815.13	*	Numeric_parameter	#2346	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1846	*	Tee_profile	#2322	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1859	*	Tee_profile to Numeric_parameter (as first_angle)	@ae815.14	M
@ae1861	*	Tee_profile to Numeric_parameter (as second_angle)	@ae815.14	M
@ae1857	*	Tee_profile to Numeric_parameter (as cross_bar_width)	@ae815.15	M
@ae1864	*	Tee_profile to Numeric_parameter (as width)	@ae815.16	M
@ae1858	*	Tee_profile to Numeric_parameter (as depth)	@ae815.17	M
@ae1862	*	Tee_profile to Numeric_parameter (as second_offset)	@ae815.18	M
@ae1860	*	Tee_profile to Numeric_parameter (as first_offset)	@ae815.18	M
@ae1856	*	Tee_profile to Numeric_parameter (as cross_bar_depth)	@ae815.19	M
@ae1863	*	Tee_profile to Numeric_parameter (as radius)	@ae815.20	M
@ae815.14	*	Numeric_parameter	#2332	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	45	S

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.15	*	Numeric_parameter	#2328	M
@ae1491	*	Property_parameter.parameter_name	'cross bar width'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.16	*	Numeric_parameter	#2326	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.17	*	Numeric_parameter	#2327	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.18	*	Numeric_parameter	#2330	M
@ae1491	*	Property_parameter.parameter_name	'offset'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.19	*	Numeric_parameter	#2329	M
@ae1491	*	Property_parameter.parameter_name	'cross bar depth'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.20	*	Numeric_parameter	2334	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1126.2	*	Open_slot_end_type	#2362	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1737.4	*	Slot	#2400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Slot 4'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1977.2,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.21	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.4	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1283	M
@ae1145.5	*	Orientation	#2406	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(110,-5,40)	S
@ae815.21	*	Numeric_parameter	#2410	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae665.4	*	Linear_path	#2442	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1283	*	Partial_circular_profile	#2422	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.5	M
@ae1286	*	Partial_circular_profile to Numeric_parameter (as radius)	@ae815.22	M
@ae1287	*	Partial_circular_profile to Numeric_parameter (as sweep_angle)	@ae815.23	M
@ae815.22	*	Numeric_parameter	#2426	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	12.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.23	*	Numeric_parameter	#2432	M
@ae1491	*	Property_parameter.parameter_name	'sweep_angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1737.5	*	Slot	#2500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Slot 5'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1977.2,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.12	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.5	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1636	M
@ae1145.6	*	Orientation	#2506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,1)	S
@ae1147	*	Orientation.location	(140,-15,40)	S
@ae665.5	*	Linear_path	#2542	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1636	*	Rounded_u_profile	#2522	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.6	M
@ae1638	*	Rounded_u_profile to Numeric_parameter (as width)	@ae815.24	M
@ae815.24	*	Numeric_parameter	#2526	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1977	*	Woodruff_slot_end_type	#2165	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1979	*	Woodruff_slot_end_type to Numeric_parameter (as radius)	@ae815.25	M

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae815.25	*	Numeric_parameter	#2166	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1977.2	*	Woodruff_slot_end_type	#2265	M
@ae1751	*	Slot_end_type.first_or_second	'true'	S
@ae1979	*	Woodruff_slot_end_type to Numeric_parameter (as radius)	@ae815.25	M
@ae1737.6	*	Slot	#2600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Slot 6'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1977.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.26	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.6	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae564	M
@ae1145.7	*	Orientation	#2606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(180,-10,40)	S
@ae815.26	*	Numeric_parameter	#2610	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.6	*	Linear_path	#2642	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.27	M
@ae815.27	*	Numeric_parameter	#2646	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae564	*	General_open_profile	#2622	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.7	M
@ae566	*	General_open_profile to Path_element (as enclosed_boundary)	@ae1303	M
@ae1303	*	Path_element	#2623	M
@ae88		Brep_model		M
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.3		Brep_shape_aspect_representation		M

Table 7 - Application elements for Slot_1 (continued)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.5 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.6 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.7 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae94 @ae96		Brep_model_element Brep_model_element to Brep_model (as element)	@ae88	M M
@ae1662 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98) <not_present> @ae1737	M S M M
@ae1662.2 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.2) <not_present> @ae1737.2	M S M M
@ae1662.3 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.3) <not_present> @ae1737.3	M S M M
@ae1662.4 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	(@ae98.4) <not_present> @ae1737.4	M S M M
@ae1662.5 @ae1670		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	M S

Table 7 - Application elements for Slot_1 (concluded)

Id	V	Application elements	Value	Req
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.5	M
@ae1662.6		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.6	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1803	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.7.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 7, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim42,
@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,	@aim74,
@aim75,	@aim77,	@aim93,	@aim94,	@aim101,	@aim107,	@aim108,	@aim201,
@aim203,	@aim214,	@aim215,	@aim217,	@aim243,	@aim256,	@aim291,	@aim295,
@aim296,	@aim301,	@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,
@aim345,	@aim334,	@aim345,	@aim346,	@aim348,	@aim364,	@aim365,	@aim370,
@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,	@aim394,	@aim396,
@aim397,	@aim399,	@aim400,	@aim402,	@aim403,	@aim444,	@aim455,	@aim456,
@aim459,	@aim482,	@aim483,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,
@aim535,	@aim536,	@aim558,	@aim559,	@aim565,	@aim566,	@aim569,	@aim571,
@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,
@aim622,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,
@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim756,	@aim757,	@aim760,
@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim775,	@aim776,
@aim777,	@aim778,	@aim826,	@aim827,	@aim835,	@aim836,	@aim840,	@aim858,
@aim859,	@aim869,	@aim877,	@aim938,	@aim939,	@aim940,	@aim943,	@aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 7 above apply.

6.8 Slot_2

Test case summary:

This abstract test case is the second of three which all contains slots. This second file contains the entity Slot, the ABS Slot_end_type and the relevant Subtypes, which are for this case the Radiused_slot_end_type and the Open_slot_end_type.

Note - The Slot_2 test part is shown in the figure 5.

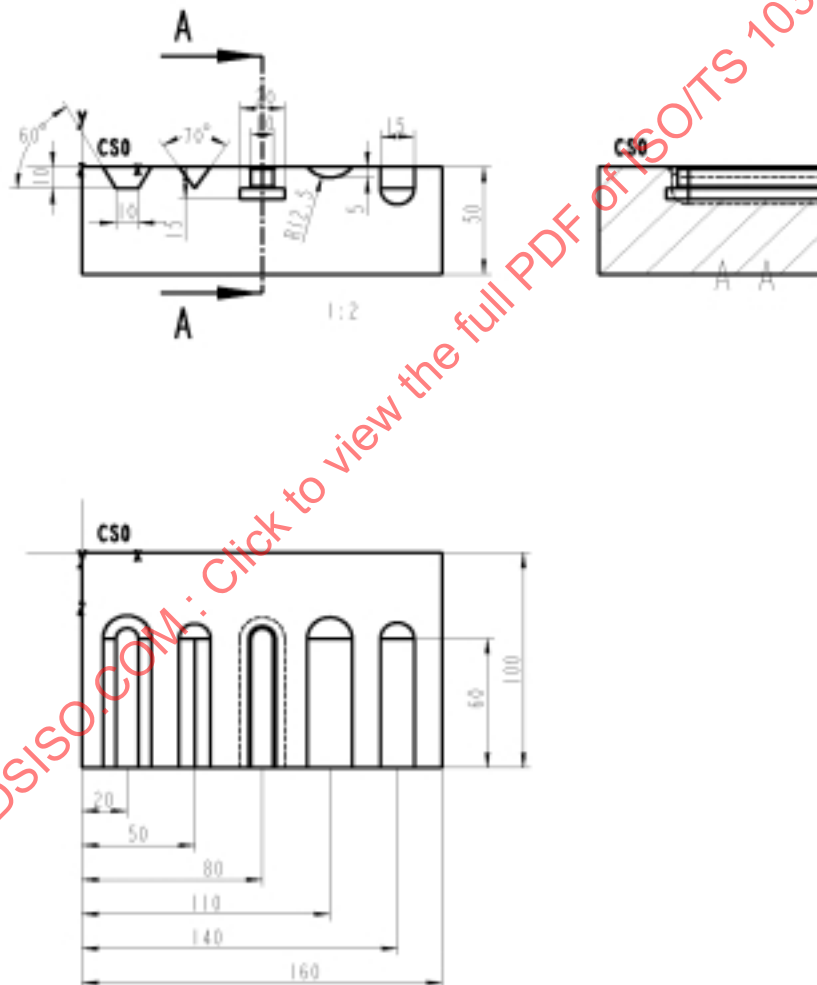


Figure 5 - Slot test case 2

6.8.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 8 - Application elements for Slot_2

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Slot_2'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-567'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(50,-25,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	160	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Frank Samoiskey'	S
@ae1322		Person.person_address	'2345 Bourbenstreet, Somewhere, NC 32456'	S
@ae1325		Person.person_phone_number	'(803)-6151-661739'	S
@ae1323		Person.person_id	'121-PI-1239'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'3564-OI-324'	S
@ae1136		Organization.organization_name	'Delivery Inc.'	S
@ae1134		Organization.organization_address	'23451 Industial Blvd., NC 23456'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'bar stock 100x160x50'	S

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1737	*	Slot	#1500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Slot 1'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1501,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.2	*	Orientation	#1506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,-10,40)	S
@ae815.4	*	Numeric_parameter	#1510	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#1542	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae815.5	*	Numeric_parameter	#1546	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790	*	Square_u_profile	#1522	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.2	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.8	M
@ae815.6	*	Numeric_parameter	#1527	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	60	S

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.7	*	Numeric_parameter	#1529	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#1526	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1501	*	Radiused_slot_end_type	#1565	M
@ae1751	*	Slot_end_type.first_or_second	'first'	S
@ae1126	*	Open_slot_end_type	#1562	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1737.2	*	Slot	#1600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Slot 2'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1501,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.2	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1964	M
@ae1145.3	*	Orientation	#1606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(50,-10,40)	S
@ae665.2	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1964	*	Vee_profile	#1622	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	@ae815.9	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	@ae815.10	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	@ae815.11	M
@ae815.9	*	Numeric_parameter	##1626	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.10	*	Numeric_parameter	#1628	M
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	55	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.11	*	Numeric_parameter	#1627	M

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'profile angle'	S
@ae818	*	Numeric_parameter.parameter_value	70	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1737.3	*	Slot	#1700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Slot 3'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126.2,@ae1501.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.12	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.3	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1846	M
@ae1145.4	*	Orientation	#1706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(80,-15,40)	S
@ae815.12	*	Numeric_parameter	#1710	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.3	*	Linear_path	#1742	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.13	M
@ae815.13	*	Numeric_parameter	#1746	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1846	*	Tee_profile	#1722	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1859	*	Tee_profile to Numeric_parameter (as first_angle)	@ae815.14	M
@ae1861	*	Tee_profile to Numeric_parameter (as second_angle)	@ae815.14	M
@ae1857	*	Tee_profile to Numeric_parameter (as cross_bar_width)	@ae815.15	M
@ae1864	*	Tee_profile to Numeric_parameter (as width)	@ae815.16	M
@ae1858	*	Tee_profile to Numeric_parameter (as depth)	@ae815.17	M
@ae1862	*	Tee_profile to Numeric_parameter (as second_offset)	@ae815.18	M
@ae1860	*	Tee_profile to Numeric_parameter (as first_offset)	@ae815.18	M
@ae1856	*	Tee_profile to Numeric_parameter (as cross_bar_depth)	@ae815.19	M
@ae1863	*	Tee_profile to Numeric_parameter (as radius)	@ae815.20	M
@ae815.14	*	Numeric_parameter	#1732	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	45	S

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.15	*	Numeric_parameter	#1728	M
@ae1491	*	Property_parameter.parameter_name	'cross bar width'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.16	*	Numeric_parameter	#1726	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.17	*	Numeric_parameter	#1727	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.18	*	Numeric_parameter	#1730	M
@ae1491	*	Property_parameter.parameter_name	'offset'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.19	*	Numeric_parameter	#1729	M
@ae1491	*	Property_parameter.parameter_name	'cross bar depth'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.20	*	Numeric_parameter	#1734	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1126.2	*	Open_slot_end_type	#1762	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1501.2	*	Radiused_slot_end_type	#1765	M
@ae1751	*	Slot_end_type.first_or_second	'first'	S
@ae1737.4	*	Slot	#1800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Slot 4'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1501,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.21	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.4	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1283	M
@ae1145.5	*	Orientation	#1806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(110,-5,40)	S
@ae815.21	*	Numeric_parameter	#1810	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S

Table 8 - Application elements for Slot_2 (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.4	*	Linear_path	#1842	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1283	*	Partial_circular_profile	#1822	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.5	M
@ae1286	*	Partial_circular_profile to Numeric_parameter (as radius)	@ae815.22	M
@ae1287	*	Partial_circular_profile to Numeric_parameter (as sweep_angle)	@ae815.23	M
@ae815.22	*	Numeric_parameter	#1826	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	12.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.23	*	Numeric_parameter	#1832	M
@ae1491	*	Property_parameter.parameter_name	'sweep angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1737.5	*	Slot	#1900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Slot 5'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1501,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.12	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.5	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1636	M
@ae1145.6	*	Orientation	#1906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(140,-15,40)	S
@ae665.5	*	Linear_path	#1942	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1636	*	Rounded_u_profile	#1922	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.6	M
@ae1638	*	Rounded_u_profile to Numeric_parameter (as width)	@ae815.24	M
@ae815.24	*	Numeric_parameter	#1926	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae88		Brep_model		M
@ae98		Brep_shape_aspect_representation		M

Table 8 - Application elements for Slot_2 (concluded)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.3 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.4 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae98.5 @ae100		Brep_shape_aspect_representation Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M M
@ae1662 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	((@ae98) <not_present> @ae1737	M S M M
@ae1662.2 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	((@ae98.2) <not_present> @ae1737.2	M S M M
@ae1662.3 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	((@ae98.3) <not_present> @ae1737.3	M S M M
@ae1662.4 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	((@ae98.4) <not_present> @ae1737.4	M S M M
@ae1662.5 @ae1670 @ae1666 @ae1673		Shape_aspect Shape_aspect to Brep_shape_aspect_representation (as Brep_form) Shape_aspect to Brep_model_element (as Brep_shape) Shape_aspect to Shape_element (as element)	((@ae98.5) <not_present> @ae1737.5	M S M M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.8.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 8, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim42,
@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,	@aim74,
@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,	@aim243,
@aim256,	@aim258,	@aim291,	@aim295,	@aim296,	@aim301,	@aim326,	@aim331,
@aim333,	@aim334,	@aim335,	@aim364,	@aim365,	@aim370,	@aim371,	@aim378,
@aim379,	@aim384,	@aim384,	@aim385,	@aim393,	@aim394,	@aim396,	@aim397,
@aim399,	@aim400,	@aim402,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,
@aim429,	@aim430,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,
@aim474,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,
@aim536,	@aim558,	@aim559,	@aim565,	@aim566,	@aim576,	@aim577,	@aim579,
@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,
@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,
@aim649,	@aim651,	@aim747,	@aim748,	@aim750,	@aim756,	@aim757,	@aim760,
@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim775,	@aim776,
@aim778,	@aim825,	@aim826,	@aim827,	@aim831,	@aim834,	@aim835,	@aim836,
@aim840,	@aim858,	@aim859,	@aim938,	@aim939,	@aim940,	@aim943,	@aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 8 above apply.

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6.9 Slot_3

Test case summary:

This abstract test case is the third of three which all contains slots. This third file contains the entity Slot, the Slot_end_type and the relevant Subtypes, which are for this case the Flat_slot_end_type, the Radiused_slot_end_type and the Open_slot_end_type. The described part is shown in the figure below.

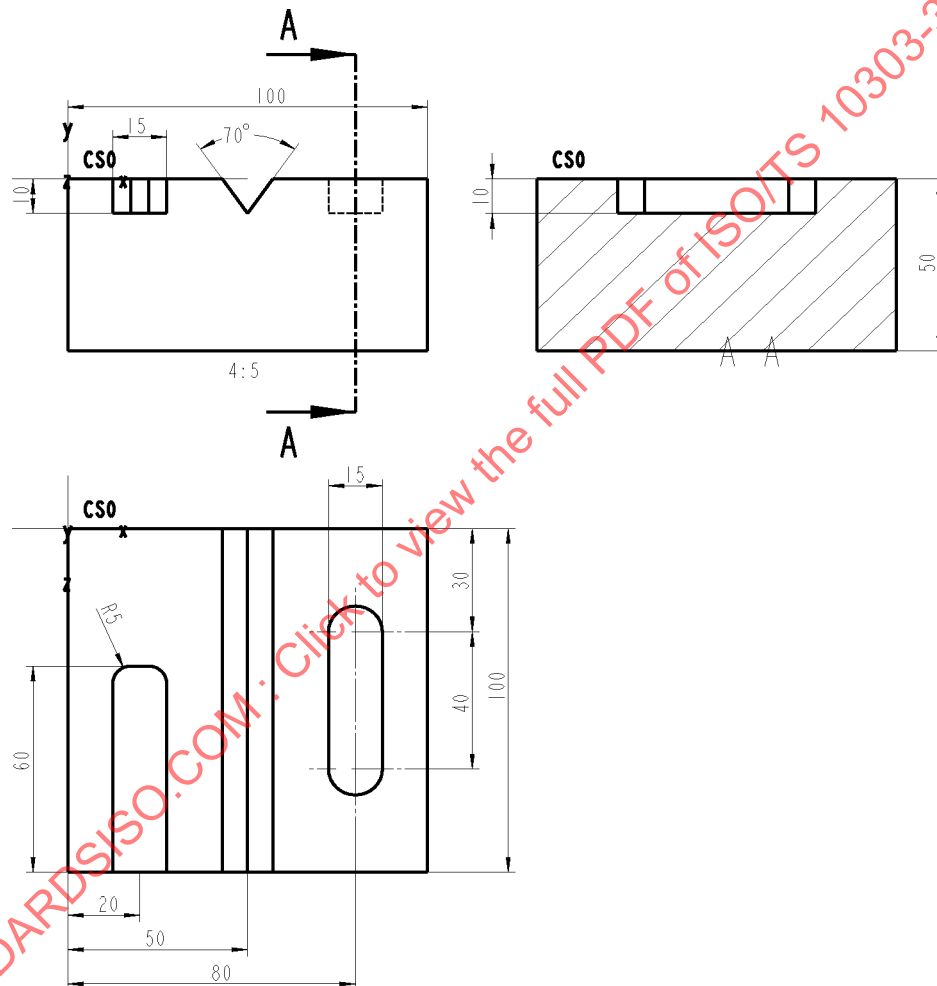


Figure 6 - Slot test case 3

6.9.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 1 - Application elements for Slot_3

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Slot_3'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-567'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1737,@ae1737.2,@ae1737.3)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M

Table 9 - Application elements for Slot_3 (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	@ae100	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,1)	S
@ae1147		Orientation.location	(50,-25,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Frank Samoiskey'	S
@ae1322		Person.person_address	'2345 Bourbenstreet, Somewhere, NC 32456'	S
@ae1325		Person.person_phone_number	'(803)-6151-661739'	S
@ae1323		Person.person_id	'121-PI-1239'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'3564-OI-324'	S
@ae1136		Organization.organization_name	'Delivery Inc.'	S
@ae1134		Organization.organization_address	'23451 Industial Blvd., NC 23456'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S

Table 9 - Application elements for Slot_3 (continued)

Id	V	Application elements	Value	Req
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'bar stock 100x100x50'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1737	*	Slot	#930	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Slot 1'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae545)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.2	*	Orientation	#936	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,-10,0)	S
@ae815.4	*	Numeric_parameter	#945	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#997	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae815.5	*	Numeric_parameter	#945	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790	*	Square_u_profile	#764	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.2	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.8	M
@ae815.6	*	Numeric_parameter	#966	M

Table 9 - Application elements for Slot_3 (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.7	*	Numeric_parameter	#980	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#961	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1126	*	Open_slot_end_type	#1012	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae545	*	Flat_slot_end_type	#1015	M
@ae1752	*	Slot_end_type.first_or_second	'first'	S
@ae549	*	Flat_slot_end_type to Numeric_parameter (as second_radius)	@ae815.9	M
@ae548	*	Flat_slot_end_type to Numeric_parameter (as first_radius)	@ae815.9	M
@ae815.9	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1737.2	*	Slot	#834	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Slot 2'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126.2,@ae1126)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.10	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.2	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1964	M
@ae1145.3	*	Orientation	#840	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(50,-10,0)	S
@ae815.10	*	Numeric_parameter	#849	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.2	*	Linear_path	#901	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.11	M
@ae815.11	*	Numeric_parameter	#906	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S

Table 9 - Application elements for Slot_3 (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	100	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1964	*	Vee_profile	#856	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	@ae815.12	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	@ae815.13	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	@ae815.14	M
@ae815.12	*	Numeric_parameter	#859	M
@ae1491	*	Property_parameter.parameter_name	'profile radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.13	*	Numeric_parameter	#858	M
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	55	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.14	*	Numeric_parameter	#857	M
@ae1491	*	Property_parameter.parameter_name	'profile angle '	S
@ae818	*	Numeric_parameter.parameter_value	70	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1126.2	*	Open_slot_end_type	#916	M
@ae1751	*	Slot_end_type.first_or_second	'first'	S
@ae1737.3	*	Slot	#742	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Slot 3'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1501,@ae1501.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.10	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665.3	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.2	M
@ae1145.4	*	Orientation	#748	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(80,-10,0)	S
@ae665.3	*	Linear_path	#801	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.15	M
@ae815.15	*	Numeric_parameter	#810	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	55	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790.2	*	Square_u_profile	#764	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M

Table 9 - Application elements for Slot_3 (concluded)

Id	V	Application elements	Value	Req
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.8	M
@ae1501	*	Radiused_slot_end_type	#820	M
@ae1751	*	Slot_end_type.first_or_second	'first'	S
@ae1501.2	*	Radiused_slot_end_type	#822	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.9.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 9, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,
@aim243,	@aim256,	@aim258,	@aim295,	@aim296,	@aim301,	@aim326,	@aim331,
@aim333,	@aim334,	@aim335,	@aim336,	@aim345,	@aim346,	@aim348,	@aim364,
@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,
@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim403,	@aim403,
@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim441,	@aim442,
@aim444,	@aim455,	@aim456,	@aim459,	@aim465,	@aim474,	@aim489,	@aim491,
@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim565,	@aim566,	@aim576,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,
@aim623,	@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,
@aim642,	@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim750,	@aim760,
@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim775,	@aim776,
@aim778,	@aim825,	@aim826,	@aim827,	@aim831,	@aim835,	@aim836,	@aim840,
@aim938,	@aim939,	@aim940,	@aim943,	@aim946			

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 9 above apply.

6.10 Removal_volume

Test case summary:

This abstract test case contains the entities Planar_face, General_removal_volume, Rounded_end and Step.

Note - The Removal_volume test part is shown in the figure 7.

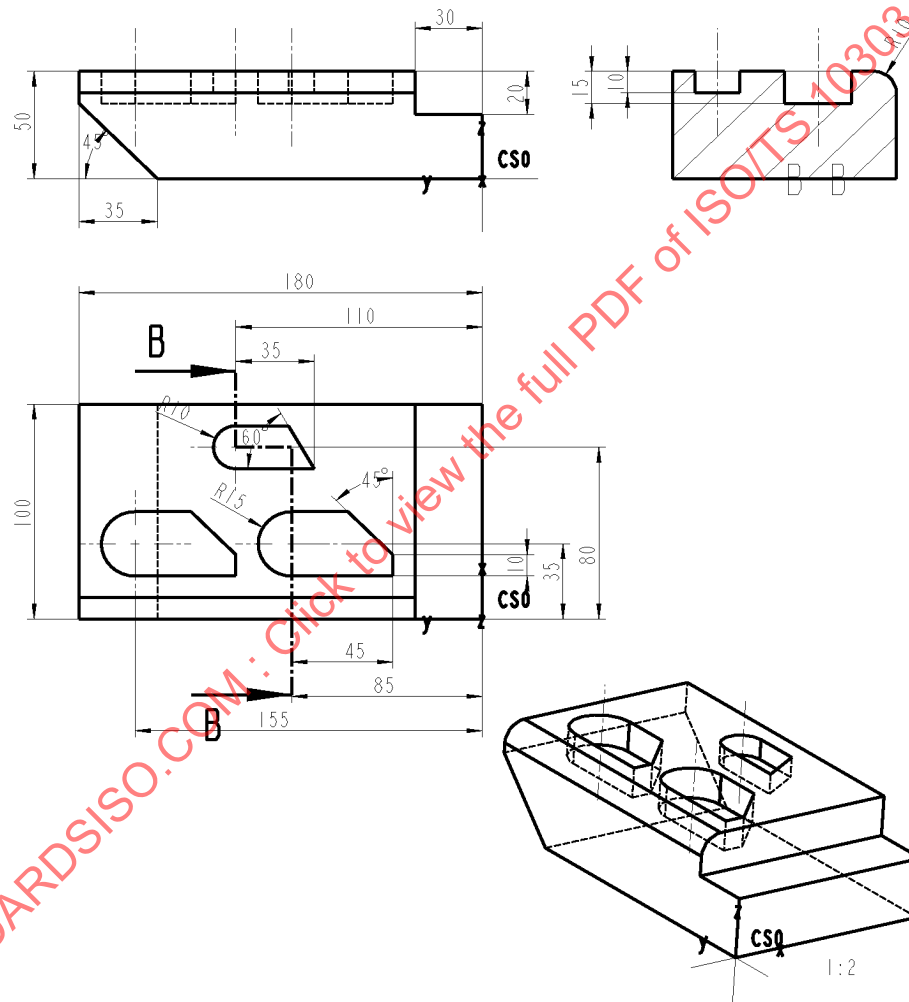


Figure 7 - Removal volume

6.10.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 10 - Application elements for Removal_volume

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Removal'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-4325'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M

Table 10 - Application elements for Removal_volume (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	180	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147		Orientation.location	(50,0,25)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Tom Fox'	S
@ae1322		Person.person_address	'2345 Woodstreet, Somewhere, NC 32456'	S
@ae1325		Person.person_phone_number	'(543)-435-2345'	S
@ae1323		Person.person_id	'123-PI-3455'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'1234-OI-95'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'1234 Main Ave., Somewhere, NC 23455'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae762		Material		M

Table 10 - Application elements for Removal_volume (continued)

Id	V	Application elements	Value	Req
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock '	S
@ae767		Material.stock_size	'bar stock 155x100x50'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae88		Brep_model		M
@ae1354	*	Planar_face	#916	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Planar_face'	S
@ae1358	*	Planar_face to Direction_element (as removal_direction)	@ae436	M
@ae1359	*	Planar_face to Linear_path (as course_of_travel)	@ae665	M
@ae1360	*	Planar_face to Linear_profile (as removal_boundary)	@ae686	M
@ae1145.2	*	Orientation	#922	M
@ae1146	*	Orientation.axis	(0,1,1,0,1,-1,-1,0,0)	S
@ae1147	*	Orientation.location	(100,145,0)	S
@ae436	*	Direction_element	#940	M
@ae665	*	Linear_path	#943	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae815.4	*	Numeric_parameter	#948	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	100	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae686	*	Linear_profile	#931	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.2	M
@ae688	*	Linear_profile to Numeric_parameter (as profile_length)	@ae815.5	M
@ae815.5	*	Numeric_parameter	#936	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	49.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M

Table 10 - Application elements for Removal_volume (continued)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1354	M
@ae1804	*	Step	#964	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Step'	S
@ae1807	*	Step to Vee_profile (as removal_boundary)	@ae1964	M
@ae1808	*	Step to Linear_path (as course_of_travel)	@ae665.2	M
@ae1145.3	*	Orientation	#970	M
@ae1146	*	Orientation.axis	(0,0,1,0,-1,0,1,0,0)	S
@ae1147	*	Orientation.location	(0,30,30)	S
@ae1964	*	Vee_profile	#994	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	@ae815.6	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	@ae815.7	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	@ae815.8	M
@ae815.6	*	Numeric_parameter	#1009	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.7	*	Numeric_parameter	#1004	M
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.8	*	Numeric_parameter	#999	M
@ae1491	*	Property_parameter.parameter_name	'profile angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S

Table 10 - Application elements for Removal_volume (continued)

Id	V	Application elements	Value	Req
@ae665.2	*	Linear_path	#977	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae815.9	*	Numeric_parameter	#986	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	100	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662.3		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1804	M
@ae1631	*	Rounded_end	#1089	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Rounded end'	S
@ae1634	*	Rounded_end to Linear_path (as course_of_travel)	@ae665.3	M
@ae1635	*	Rounded_end to Partial_circular_profile (as partial_circular_boundary)	@ae1283	M
@ae1145.4	*	Orientation	#1095	M
@ae1146	*	Orientation.axis	(-1,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(10,30,20)	S
@ae665.3	*	Linear_path	#1126	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.10	M
@ae815.10	*	Numeric_parameter	#1135	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	150	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1283	*	Partial_circular_profile	#1102	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1286	*	Partial_circular_profile to Numeric_parameter (as radius)	@ae815.11	M
@ae1287	*	Partial_circular_profile to Numeric_parameter (as sweep_angle)	@ae815.12	M
@ae815.11	*	Numeric_parameter	#1111	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.12	*	Numeric_parameter	#1120	M

Table 10 - Application elements for Removal_volume (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'sweep angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662.4		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1631	M
@ae588	*	General_removal_volume	#1023	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'General rem 1'	S
@ae590	*	General_removal_volume to Brep_model (as removal_volume)	@ae88.2	M
@ae1145.5	*	Orientation	#1029	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(80,110,40)	S
@ae88.2	*	Brep_model	#1030	M
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662.5		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae588	M
@ae588.2	*	General_removal_volume	#1045	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'General rem 2'	S
@ae590	*	General_removal_volume to Brep_model (as removal_volume)	@ae88.3	M
@ae1145.6	*	Orientation	#1051	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(35,85,40)	S
@ae88.3	*	Brep_model	#1052	M
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662.6		Shape_aspect		M

Table 10 - Application elements for Removal_volume (concluded)

Id	V	Application elements	Value	Req
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.6)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae588.2	M
@ae588.3	*	General_removal_volume	#1067	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'General rem 3'	S
@ae590	*	General_removal_volume to Brep_model (as removal_volume)	@ae88.3	M
@ae1145.7	*	Orientation	#1073	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(35,155,40)	S
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.7)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae588.3	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.10.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 10, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,
@aim243,	@aim256,	@aim258,	@aim295,	@aim296,	@aim301,	@aim326,	@aim331,
@aim333,	@aim334,	@aim335,	@aim336,	@aim345,	@aim346,	@aim348,	@aim364,
@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,
@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim441,
@aim444,	@aim445,	@aim455,	@aim456,	@aim459,	@aim465,	@aim489,	@aim491,
@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim558,	@aim559,	@aim565,
@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,
@aim592,	@aim622,	@aim623,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,
@aim641,	@aim642,	@aim644,	@aim649,	@aim651,	@aim742,	@aim747,	@aim748,
@aim755,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,
@aim774,	@aim775,	@aim776,	@aim777,	@aim778,	@aim840,	@aim841,	@aim877,
@aim938,	@aim939,	@aim940,	@aim943,	@aim946			

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 10 above apply.

6.11 Revolved_feature

Test case summary:

This abstract test case contains the Revolved_feature and the relevant Subtypes, which are Groove, Revolved_round, Revolved_flat and General_revolution. It also contains the entity Spherical_cap.

Note - The Revolved_feature part is shown in the figure 8.

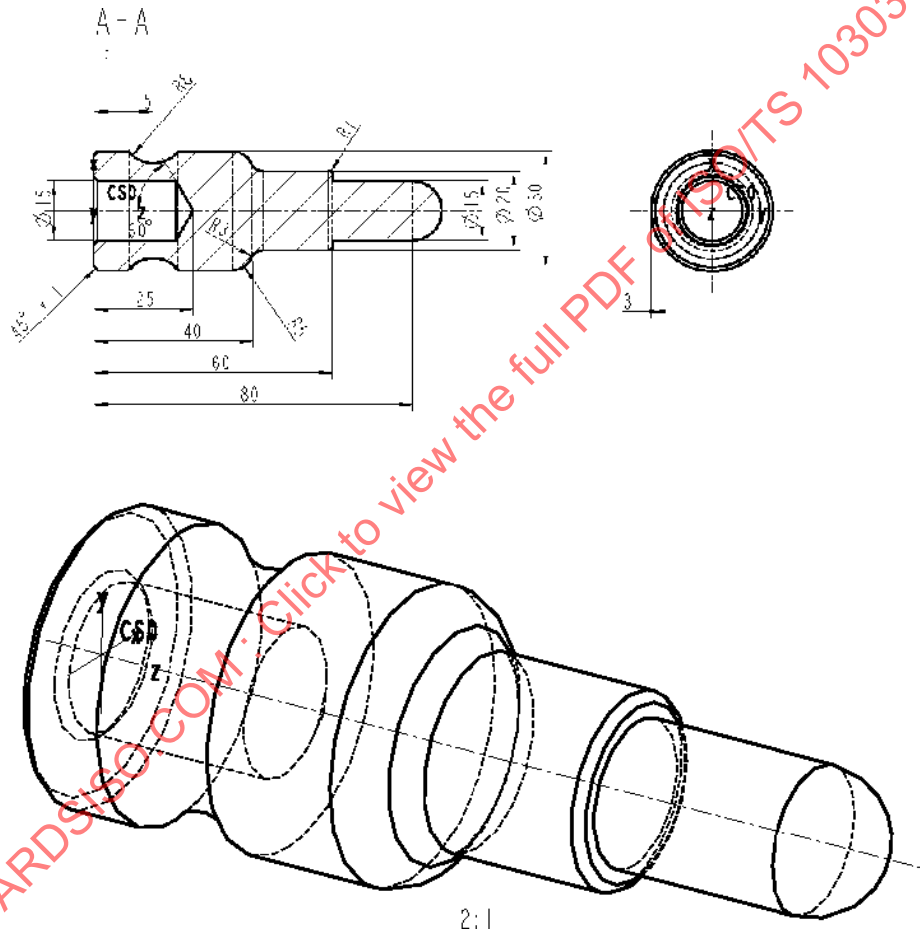


Figure 8 - Revolved_feature

6.11.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 11 - Application elements for Revolved_feature

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Revolved'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-345'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae1658		Shape to Shape_aspect (as element)	((@ae1662,@ae1662.2,@ae1662.3,@ae1662.4, @ae1662.5,@ae1662.6,@ae1662.7,@ae1662. 8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1 662.12,@ae1662.13,@ae1662.14)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae271	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,60)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	15	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Tom Meier'	S
@ae1322		Person.person_address	'1234 Dockstreet, Somewhere, TX 23456'	S
@ae1325		Person.person_phone_number	'(234)-435-5342'	S
@ae1323		Person.person_id	'123-PI-234'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'2134-OI-546'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Miller Rd., Somewhere, TX 12345'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae764		Material.material_description	'Steel Stick'	S
@ae767		Material.stock_size	'Stick 30x100'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae88		Brep_model		M
@ae1782	*	Spherical_cap	#1800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Spherical cap'	S
@ae1785	*	Spherical_cap to Numeric_parameter (as internal_angle)	@ae815.3	M
@ae1786	*	Spherical_cap to Numeric_parameter (as radius)	@ae815.4	M
@ae1145.2	*	Orientation	#1806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,80)	S
@ae815.3	*	Numeric_parameter	#1811	M
@ae1491	*	Property_parameter.parameter_name	'internal angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.4	*	Numeric_parameter	#1810	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	7.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1782	M
@ae591	*	General_revolution	#1300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae743	*	Machining_feature.usage_name	'General revolution'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.5	M
@ae593	*	General_revolution to General_open_profile (as outer_edge_shape)	@ae564	M
@ae1145.3	*	Orientation	#1306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae436	*	Direction_element	#1322	M
@ae815.5	*	Numeric_parameter	#1310	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae564	*	General_open_profile	#1400	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae566	*	General_open_profile to Path_element (as enclosed_boundary)	@ae1303	M
@ae1145.4	*	Orientation	#1406	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(0,10,60)	S
@ae1303	*	Path_element	#1432	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.2		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.3		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.3)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.4		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.4)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae591	M
@ae1603	*	Revolved_round	#1500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Revolved round'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436.2	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.6	M
@ae1605	*	Revolved_round to Partial_circular_profile (as rounded_edge_shape)	@ae1283	M
@ae1145.5	*	Orientation	#1506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,60)	S
@ae436.2	*	Direction_element	#1523	M
@ae815.6	*	Numeric_parameter	#1527	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1283	*	Partial_circular_profile	#1532	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.6	M
@ae1286	*	Partial_circular_profile to Numeric_parameter (as radius)	@ae815.7	M
@ae1287	*	Partial_circular_profile to Numeric_parameter (as sweep_angle)	@ae815.8	M
@ae1145.6	*	Orientation	#1523	M
@ae1146	*	Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(0,9,59)	S
@ae815.7	*	Numeric_parameter	#1527	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#1528	M
@ae1491	*	Property_parameter.parameter_name	'sweep angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.3		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.5		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.6))	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1603	M
@ae635	*	Groove	#1700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Groove'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436.3	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.9	M
@ae637	*	Groove to Open_profile (as sweep)	@ae1283.2	M
@ae1145.7	*	Orientation	#1706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,15)	S
@ae436.3	*	Direction_element	#1706	M
@ae815.9	*	Numeric_parameter	#1710	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	12	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1283.2	*	Partial_circular_profile	#1732	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.8	M
@ae1286	*	Partial_circular_profile to Numeric_parameter (as radius)	@ae815.10	M

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae1287	*	Partial_circular_profile to Numeric_parameter (as sweep_angle)	@ae815.11	M
@ae1145.8	*	Orientation	#1723	M
@ae1146	*	Orientation.axis	(0,0,-1,-1,0,0,0,1,0)	S
@ae1147	*	Orientation.location	(12,0,15)	S
@ae815.10	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	8	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'sweep angle'	S
@ae818	*	Numeric_parameter.parameter_value	60	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.8		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.4		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.6		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.4)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.3	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.8)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae635	M
@ae591.2	*	General_revolution		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'General revolution 2'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436.4	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.12	M

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae593	*	General_revolution to General_open_profile (as outer_edge_shape)	@ae564.2	M
@ae1145.9	*	Orientation		M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae436.4	*	Direction_element		M
@ae815.12	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	7.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae564.2	*	General_open_profile		M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.10	M
@ae566	*	General_open_profile to Path_element (as enclosed_boundary)	@ae1303.2	M
@ae1145.10	*	Orientation		M
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,1,0,0)	S
@ae1147	*	Orientation.location	(0,0,25)	S
@ae1303.2	*	Path_element		M
@ae98.9		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.10		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.11		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.5		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.6		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.8		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.9)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.4	M
@ae1662.9		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.10)	S

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.6)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.2	M
@ae1662.10		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.11)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae591.2	M
@ae1600	*	Revolved_flat	#1600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.11	M
@ae743	*	Machining_feature.usage_name	'Revolved flat 1'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436.5	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.13	M
@ae1602	*	Revolved_flat to Linear_profile (as flat_edge_shape)	@ae686	M
@ae1145.11	*	Orientation	#1606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae436.5	*	Direction_element	#1706	M
@ae815.13	*	Numeric_parameter	#1610	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae686	*	Linear_profile	#1632	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.12	M
@ae688	*	Linear_profile to Numeric_parameter (as profile_length)	@ae815.14	M
@ae1145.12	*	Orientation	#1623	M
@ae1146	*	Orientation.axis	(1,0,1,0,1,0,-1,0,1)	S
@ae1147	*	Orientation.location	(14,0,0)	S
@ae815.14	*	Numeric_parameter	#1627	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	1.41421	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98.12		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.13		Brep_shape_aspect_representation		M

Table 11 - Application elements for Revolved_feature (continued)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.7		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.11		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.12)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.7)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.5	M
@ae1662.12		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.13)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1600	M
@ae1600.2	*	Revolved_flat		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.13	M
@ae743	*	Machining_feature.usage_name	'Revolved flat 2'	S
@ae1599	*	Revolved_feature to Direction_element (as material_side)	@ae436.6	M
@ae1598	*	Revolved_feature to Numeric_parameter (as radius)	@ae815.15	M
@ae1602	*	Revolved_flat to Linear_profile (as flat_edge_shape)	@ae686.2	M
@ae1145.13	*	Orientation		M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae436.6	*	Direction_element		M
@ae815.15	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	7.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae686.2	*	Linear_profile		M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.14	M
@ae688	*	Linear_profile to Numeric_parameter (as profile_length)	@ae815.14	M
@ae1145.14	*	Orientation		M
@ae1146	*	Orientation.axis	(1,0,-1,0,-1,0,-1,0,-1)	S
@ae1147	*	Orientation.location	(6.5,0,1)	S

Table 11 - Application elements for Revolved_feature (concluded)

Id	V	Application elements	Value	Req
@ae98.14		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.15		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.8		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.13		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.15)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1600.2	M
@ae1662.14		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.14)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.8)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.6	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.11.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 11, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim214,	@aim215,	@aim217,	@aim243,	@aim256,
@aim258,	@aim291,	@aim295,	@aim296,	@aim298,	@aim300,	@aim301,	@aim326,
@aim331,	@aim333,	@aim334,	@aim345,	@aim346,	@aim348,	@aim364,	@aim365,
@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,	@aim394,
@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim444,	@aim445,	@aim455,
@aim456,	@aim459,	@aim482,	@aim483,	@aim489,	@aim491,	@aim494,	@aim496,
@aim499,	@aim535,	@aim536,	@aim558,	@aim559,	@aim569,	@aim571,	@aim576,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,
@aim623,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,
@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim755,	@aim756,	@aim757,
@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim774,
@aim775,	@aim776,	@aim777,	@aim778,	@aim833,	@aim834,	@aim840,	@aim869,
@aim877,	@aim938,	@aim940,	@aim943,	@aim946			

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 11 above apply.

6.12 Protrusion

Test case summary:

This abstract test case contains the Features Protrusion and General_outside_profile.

Note - The Protrusion test part is shown in the figure 9.

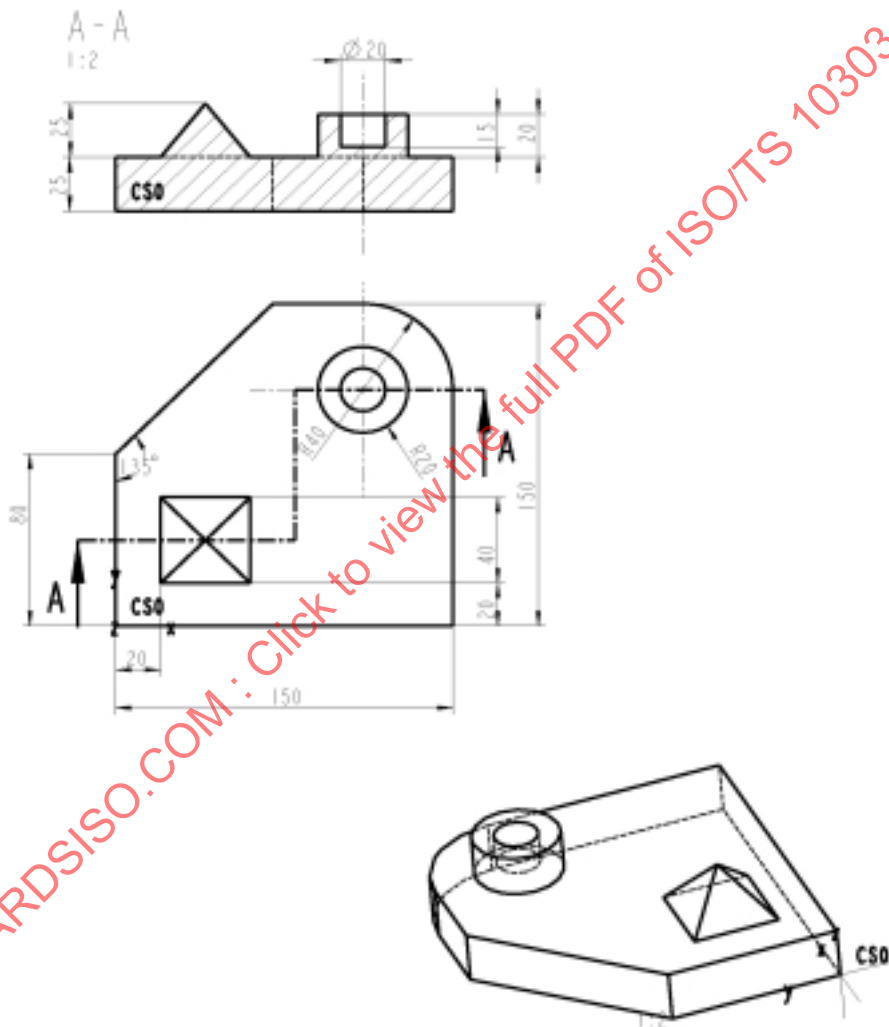


Figure 9 - Protrusion

6.12.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 12 - Application elements for Protrusion

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Protrusion'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-4325'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae484	M

Table 12 - Application elements for Protrusion (continued)

Id	V	Application elements	Value	Req
@ae1654		Shape to Brep_shape_representation (as Brep_form)	(@ae102)	S
@ae484		Explicit_base_shape_representation		M
@ae486		Explicit_base_shape_representation to Brep_shape_representation (as Brep_form)	@ae102	M
@ae102		Brep_shape_representation		M
@ae104		Brep_shape_representation to Brep_model (as shape_definition)	@ae88	M
@ae88		Brep_model		M
@ae570	*	General_outside_profile		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145	M
@ae743	*	Machining_feature.usage_name	'General outside profile'	S
@ae572	*	General_outside_profile to Profile (as boundary)	@ae561	M
@ae1145	*	Orientation		M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae561	*	General_closed_profile		M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145	M
@ae1303	*	Path_element		M
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae570	M
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M

Table 12 - Application elements for Protrusion (continued)

Id	V	Application elements	Value	Req
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Hugo Hill'	S
@ae1322		Person.person_address	'1234 Mountain Ave., Somewhere, CA 12456'	S
@ae1325		Person.person_phone_number	'(356)-133-4321'	S
@ae1323		Person.person_id	'2323-PI-324'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'234-OI-22231'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'1234 Port Blvd., Somewhere, CA 23456'	S
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'bar stock 150x150x50'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae774		Material to Part (material_definition) (as inverse relationship)	@ae1218	M
@ae1496	*	Protrusion		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Protrusion 1'	S
@ae1498	*	Protrusion to Shape_element (as shape_volume)	(@ae555)	S
@ae1145.2	*	Orientation		M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(20,20,25)	S
@ae555	*	General_boss		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'General boss'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae594	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.2	M
@ae558	*	General_boss to Closed_profile (as enclosed_boundary)	@ae561.2	M
@ae559	*	General_boss to Angle_taper (as change_in_boundary)	<not_present>	M
@ae594	*	General_top_condition		M
@ae84	*	Boss_top_condition.start_or_end	'boss end'	S

Table 12 - Application elements for Protrusion (continued)

Id	V	Application elements	Value	Req
@ae596	*	General_top_condition to Face_shape_element (as top_face)	@ae494	M
@ae494	*	Face_shape_element		M
@ae665	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815	M
@ae815	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.2	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'fillet radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae561.2	*	General_closed_profile		M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.2	M
@ae1303.2	*	Path_element		M
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.2		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.3		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.3		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494	M
@ae1662.4		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.3)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.2	M

Table 12 - Application elements for Protrusion (continued)

Id	V	Application elements	Value	Req
@ae1662.5		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.5)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1496	M
@ae1496.2	*	Protrusion		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Protrusion 2'	S
@ae1499	*	Protrusion to Shape_element (as shape_volume)	((@ae128,@ae1606)	S
@ae1145.3	*	Orientation		M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(110,110,50)	S
@ae128	*	Circular_boss		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Circular boss'	S
@ae76	*	Boss to Boss_top_condition (as top_condition)	@ae1368	M
@ae77	*	Boss to Linear_path (as boss_height)	@ae665.2	M
@ae78	*	Boss to Numeric_parameter (as fillet_radius)	@ae815.2	M
@ae131	*	Circular_boss to Circular_closed_profile (as circular_profile)	@ae136	M
@ae132	*	Circular_boss to Taper_select (as change_in_diameter)	<not_present>	M
@ae1368	*	Planar_top_condition		M
@ae83	*	Boss_top_condition.start_or_end	'boss start'	S
@ae1372	*	Planar_top_condition to Location_element (as top_location)	@ae708	M
@ae1371	*	Planar_top_condition to Direction_element (as top_normal)	@ae436	M
@ae708	*	Location_element		M
@ae436	*	Direction_element		M
@ae665.2	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae815.3	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae136	*	Circular_closed_profile		M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.4	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S

Table 12 - Application elements for Protrusion (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	40	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1606	*	Round_hole		M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Round hole'	S
@ae1611	*	Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae136.2	*	Circular_closed_profile		M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.5	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.3	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.6	M
@ae815.6	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae544	*	Flat_hole_bottom		M
@ae61	*	Blind_bottom_condition.start_or_end	'hole end'	S
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.8		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.4		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.5		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.6		Shape_aspect		M

Table 12 - Application elements for Protrusion (concluded)

Id	V	Application elements	Value	Req
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.6)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.4)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.8		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.8)	S
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1496.2	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.12.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 12, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,
@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim205,	@aim206,	@aim214,
@aim215,	@aim217,	@aim243,	@aim244,	@aim245,	@aim252,	@aim253,	@aim256,
@aim258,	@aim295,	@aim296,	@aim301,	@aim326,	@aim331,	@aim333,	@aim334,
@aim335,	@aim336,	@aim345,	@aim346,	@aim348,	@aim364,	@aim365,	@aim370,
@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,	@aim394,	@aim396,
@aim397,	@aim399,	@aim400,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,
@aim429,	@aim430,	@aim432,	@aim433,	@aim441,	@aim442,	@aim444,	@aim447,
@aim448,	@aim455,	@aim456,	@aim459,	@aim465,	@aim474,	@aim489,	@aim491,
@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim565,	@aim565,	@aim566,
@aim569,	@aim571,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,
@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,	@aim636,	@aim637,
@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,	@aim747,
@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,
@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim831,	@aim840,	@aim938,
@aim943,	@aim946						

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 12 above apply.

6.13 Pocket

Test case summary:

This abstract test case contains the ABS Pocket, the ABS Pocket_bottom_condition and relevant Subtypes, which are General_pocket, Rectangular_closed_pocket, Rectangular_open_pocket, General_open_pocket - condition, Through_pocket_bottom_condition and Planar_pocket_bottom_condition.

Note - The described part is shown in the figure below.

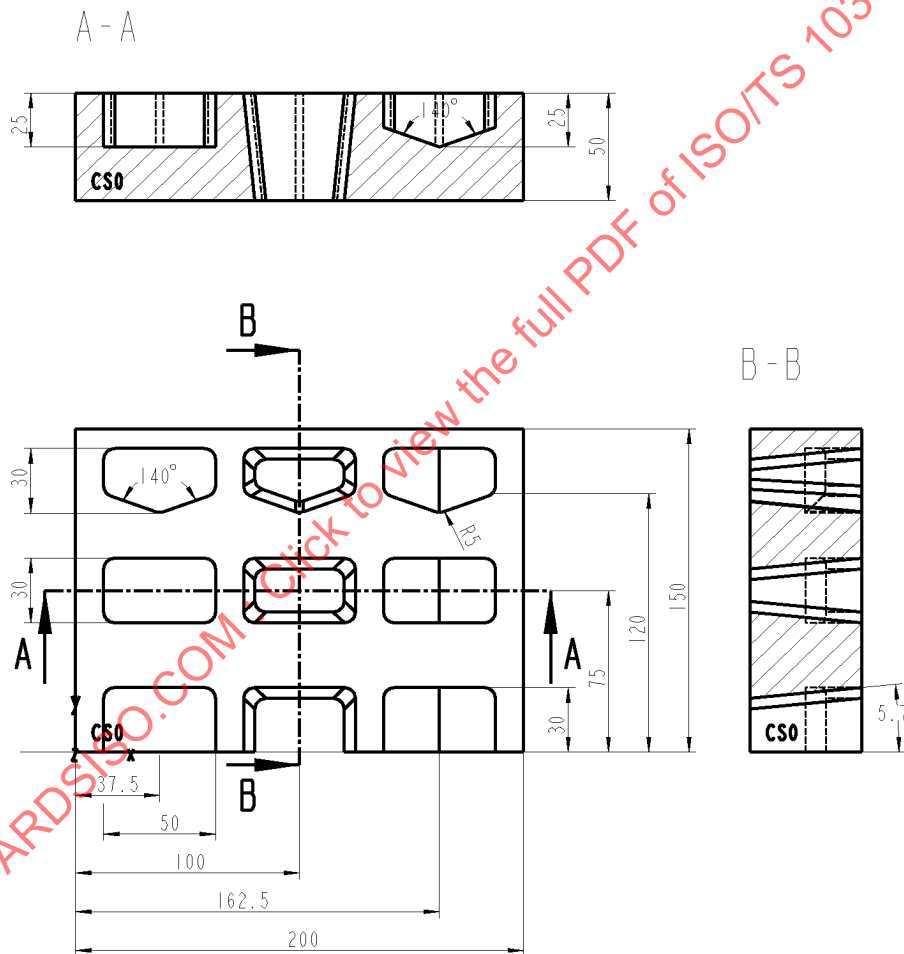


Figure 10 - Pocket

6.13.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 13 - Application elements for Pocket

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Pocket'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-435'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12,@ae1662.13,@ae1662.14,@ae1662.15,@ae1662.16,@ae1662.17,@ae1662.18,@ae1662.19,@ae1662.20)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	200	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(0,1,0,0,0,1,0,0,1)	S
@ae1147		Orientation.location	(0,75,25)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	150	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Bill Becks'	S
@ae1322		Person.person_address	'1234 Barstreet, Somewhere, NY 23456'	S
@ae1325		Person.person_phone_number	'(345)-345-4567'	S
@ae1323		Person.person_id	'123-PI-2346'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'345-OI-546'	S

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'3245 River Ave.,Somewhere, NY 34567'	S
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'bar stock 200x150x50'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae88		Brep_model		M
@ae1533	*	Rectangular_open_pocket	#3500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Rec open 1'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1361	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae1535	*	Rectangular_open_pocket to Square_U_profile (as open_boundary)	@ae1790	M
@ae1145.2	*	Orientation	#3506	M
@ae1146	*	Orientation.axis	(-1,0,0,0,-1,0,0,0,1)	S
@ae1147	*	Orientation.location	(37.5,30,25)	S
@ae1361	*	Planar_pocket_bottom_condition	#3562	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae1366	*	Planar_pocket_bottom_condition to Location_element (as floor_location)	@ae708	M
@ae1365	*	Planar_pocket_bottom_condition to Direction_element (as floor_normal)	@ae436	M
@ae1367	*	Planar_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.4	M
@ae708	*	Location_element	#3519	M
@ae436	*	Direction_element	#3550	M
@ae815.4	*	Numeric_parameter	#3572	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#3542	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae815.5	*	Numeric_parameter	#3546	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790	*	Square_u_profile	#3522	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.2	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.8	M
@ae815.6	*	Numeric_parameter	#3527	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.7	*	Numeric_parameter	#3529	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#3526	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.2		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1662.2		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.2)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.3		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1533	M
@ae1533.2	*	Rectangular_open_pocket	#3600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Rec open 2'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.2	M
@ae1392	*	Pocket to Angle_taper (as change_in_boundary)	@ae6	M
@ae1535	*	Rectangular_open_pocket to Square_U_profile (as open_boundary)	@ae1790.2	M
@ae1145.3	*	Orientation	#3606	M
@ae1146	*	Orientation.axis	(-1,0,0,0,-1,0,0,0,1)	S
@ae1147	*	Orientation.location	(100,25,0)	S
@ae1881	*	Through_pocket_bottom_condition	#3662	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae665.2	*	Linear_path	#3642	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae815.9	*	Numeric_parameter	#3646	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae6	*	Angle_taper	#3682	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.10	M
@ae815.10	*	Numeric_parameter	#3686	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	5.7	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1790.2	*	Square_u_profile	#3622	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.11	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.12	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.11	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.12	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.13	M
@ae815.11	*	Numeric_parameter	#3627	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.12	*	Numeric_parameter	#3629	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.13	*	Numeric_parameter	#3626	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	40	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.4		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1533.2	M
@ae1533.3	*	Rectangular_open_pocket	#3700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Rec open 3'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae583	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.3	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae1535	*	Rectangular_open_pocket to Square_U_profile (as open_boundary)	@ae1790.3	M
@ae1145.4	*	Orientation	#3706	M
@ae1146	*	Orientation.axis	(-1,0,0,0,-1,0,0,0,1)	S
@ae1147	*	Orientation.location	(162.5,40,50)	S
@ae583	*	General_pocket_bottom_condition	#3762	M
@ae1399	*	Pocket_bottom_condition.start_or_end	'pocket end'	S
@ae586	*	General_pocket_bottom_condition to Face_shape_element (as floor)	@ae494	M
@ae587	*	General_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.4	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae494	*	Face_shape_element	#3777	M
@ae665.3	*	Linear_path		M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.14	M
@ae815.14	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790.3	*	Square_u_profile		M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.6	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.7	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.6	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.7	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.8	M
@ae98.3	*	Brep_shape_aspect_representation	#1401	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.3	*	Brep_model_element	#1395	M
@ae96	*	Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.5	*	Shape_aspect	#1422	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.3)	S
@ae1667	*	Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.3)	S
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae494	M
@ae1662.6		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1533.3	M
@ae1502	*	Rectangular_closed_pocket	#3800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Closed 1'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1361.2	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.4	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1504	*	Rectangular_closed_pocket to Rectangular_closed_profile (as closed_boundary)	@ae1505	M
@ae1145.5	*	Orientation	#3806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(37.5,75,25)	S
@ae1361.2	*	Planar_pocket_bottom_condition	#3862	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae1366	*	Planar_pocket_bottom_condition to Location_element (as floor_location)	@ae708.2	M
@ae1365	*	Planar_pocket_bottom_condition to Direction_element (as floor_normal)	@ae436.2	M
@ae1367	*	Planar_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.4	M
@ae708.2	*	Location_element	#3819	M
@ae436.2	*	Direction_element	#3850	M
@ae665.4	*	Linear_path	#3842	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1505	*	Rectangular_closed_profile	#3822	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.5	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.7	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.15	M
@ae815.15	*	Numeric_parameter	#3827	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.4		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.5		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.7		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.4)	S

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.2	M
@ae1662.8		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.2	M
@ae1662.9		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1502	M
@ae1502.2	*	Rectangular_closed_pocket	#3900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Closed 2'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881.2	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.5	M
@ae1392	*	Pocket to Angle_taper (as change_in_boundary)	@ae6.2	M
@ae1504	*	Rectangular_closed_pocket to Rectangular_closed_profile (as closed_boundary)	@ae1505.2	M
@ae1145.6	*	Orientation	#3906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(100,75,25)	S
@ae1881.2	*	Through_pocket_bottom_condition	#3962	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae665.5	*	Linear_path	#3942	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.9	M
@ae1505.2	*	Rectangular_closed_profile	#3922	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.6	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.7	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.15	M
@ae1662.10		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1502.2	M
@ae1502.3	*	Rectangular_closed_pocket	#4000	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Closed 3'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae583.2	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.6	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae1504	*	Rectangular_closed_pocket to Rectangular_closed_profile (as closed_boundary)	@ae1505.3	M
@ae1145.7	*	Orientation	#4006	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(162.5,75,25)	S
@ae583.2	*	General_pocket_bottom_condition	#4062	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae586	*	General_pocket_bottom_condition to Face_shape_element (as floor)	@ae494	M
@ae587	*	General_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.4	M
@ae665.6	*	Linear_path	#4042	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae1505.3	*	Rectangular_closed_profile	#4022	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.7	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.7	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.15	M
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.6		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.11		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.6)	S
@ae1672		Shape_aspect to Shape_element (as element)	<not_present>	M
@ae1662.12		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1502.3	M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae580	*	General_pocket	#4100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'General 1'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1361.3	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.7	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561	M
@ae1145.8	*	Orientation	#4106	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(37.5,120,25)	S
@ae1361.3	*	Planar_pocket_bottom_condition	#4162	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae1366	*	Planar_pocket_bottom_condition to Location_element (as floor_location)	@ae708.3	M
@ae1365	*	Planar_pocket_bottom_condition to Direction_element (as floor_normal)	@ae436.2	M
@ae1367	*	Planar_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.18	M
@ae708.3	*	Location_element	#4123	M
@ae665.7	*	Linear_path	#4142	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.8	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae561	*	General_closed_profile	#4117	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.8	M
@ae1303		Path_element	#4118	M
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.8		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.9		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.7		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.8		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.9		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.13		Shape_aspect		M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.7)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae708.3	M
@ae1662.14		Shape_aspect	#734	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.9)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.9)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.15		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580	M
@ae580.2	*	General_pocket	#4200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'General 2'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881.2	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.8	M
@ae1392	*	Pocket to Angle_taper (as change_in_boundary)	@ae6.2	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561.2	M
@ae1145.9	*	Orientation	#4206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(100,120,25)	S
@ae665.8	*	Linear_path	#4242	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.9	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.16	M
@ae815.16	*	Numeric_parameter	#4246	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae561.2	*	General_closed_profile	#4217	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.9	M
@ae1303.2	*	Path_element	#4218	M
@ae98.10		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.10		Brep_model_element		M

Table 13 - Application elements for Pocket (continued)

Id	V	Application elements	Value	Req
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.16		Shape_aspect	#1003	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.10)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.10)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.2	M
@ae1662.17		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.2	M
@ae580.3	*	General_pocket	#4300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743	*	Machining_feature.usage_name	'General 3'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae583.3	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.9	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561.3	M
@ae1145.10	*	Orientation	#4306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(162.5,120,25)	S
@ae583.3	*	General_pocket_bottom_condition	#4362	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae586	*	General_pocket_bottom_condition to Face_shape_element (as floor)	@ae494.2	M
@ae587	*	General_pocket_bottom_condition to Numeric_parameter (as floor_radius)	@ae815.19	M
@ae494.2	*	Face_shape_element	#4377	M
@ae665.9	*	Linear_path	#4342	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.10	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.5	M
@ae561.3	*	General_closed_profile	#4317	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.10	M
@ae1303.3	*	Path_element	#4318	M
@ae98.11		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.12		Brep_shape_aspect_representation		M

Table 13 - Application elements for Pocket (concluded)

Id	V	Application elements	Value	Req
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.11		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.12		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.18		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.11)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.11)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.2	M
@ae1662.19		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.12)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.12)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.3	M
@ae1662.20		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.3	M
@ae6.2	*	Angle_taper	#4282	M
@ae8	*	Angle_taper to Numeric_parameter (as angle)	@ae815.17	M
@ae815.17	*	Numeric_parameter	#4286	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S
@ae818	*	Numeric_parameter.parameter_value	5.7	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.18		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.19		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.13.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 13, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,
@aim41,	@aim42,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,
@aim66,	@aim67,	@aim74,	@aim75,	@aim77,	@aim93,	@aim94,
@aim101,	@aim107,	@aim108,	@aim201,	@aim203,	@aim214,	@aim215,
@aim217,	@aim243,	@aim252,	@aim253,	@aim256,	@aim295,	@aim296,
@aim301,	@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,
@aim345,	@aim346,	@aim348,	@aim364,	@aim365,	@aim370,	@aim371,
@aim372,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,	@aim394,
@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim403,	@aim444,
@aim455,	@aim456,	@aim459,	@aim489,	@aim491,	@aim494,	@aim496,
@aim499,	@aim535,	@aim536,	@aim565,	@aim569,	@aim570,	@aim576,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,
@aim622,	@aim623,	@aim627,	@aim628,	@aim635,	@aim636,	@aim637,
@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,
@aim730,	@aim731,	@aim747,	@aim748,	@aim760,	@aim762,	@aim763,

@aim764, @aim768, @aim769, @aim773, @aim775, @aim776, @aim777,
@aim778, @aim835, @aim836, @aim840, @aim854, @aim855, @aim877,
@aim938, @aim943, @aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 13 above apply.

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6.14 Thread

Test case summary:

This abstract test case contains the Thread and the relevant Subtypes, which are Catalog_thread and Defined_thread. It also contains the entity Partial_area_definition.

Note - The Thread test part is shown in the figure 11.

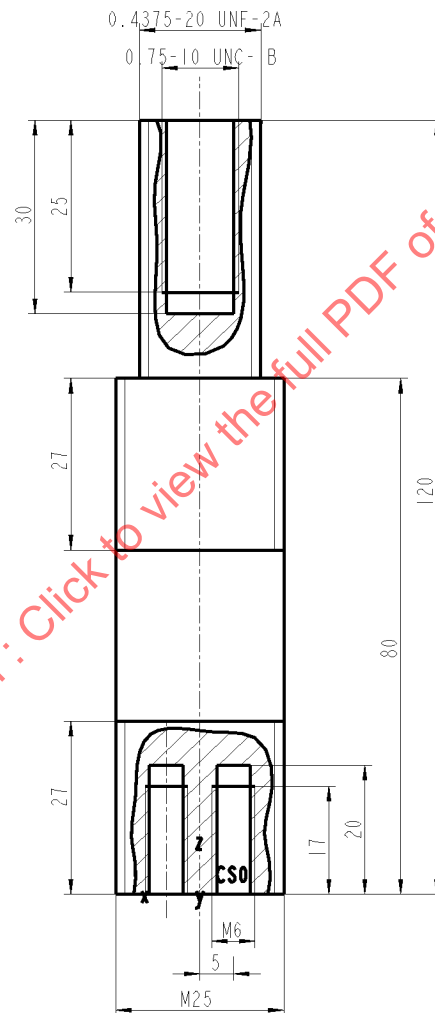


Figure 11 - Thread

6.14.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 14 - Application elements for Thread

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Thread'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-534'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1129)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1333)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae1658		Shape to Shape_aspect (as element)	((@ae1662,@ae1662.2,@ae1662.3,@ae1662.4, @ae1662.5,@ae1662.6,@ae1662.7,@ae1662. 8,@ae1662.9,@ae1662.10,@ae1662.11)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae1746.3	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape		
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815.1	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815.1		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	120	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	25	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Joe Buck'	S
@ae1322		Person.person_address	'2345 City street, Somewhere, NC 22455'	S
@ae1325		Person.person_phone_number	'(123)-456-2435'	S
@ae1323		Person.person_id	'123-PI-456'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'123-OI-435'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Lake Blvd., Somewhere, NC 32255'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel Stick'	S

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae767		Material.stock_size	'Stick 120x25'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae88		Brep_model		M
@ae1193		Outer_diameter		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145	M
@ae743		Machining_feature.usage_name	'Outer diameter'	S
@ae1199		Outer_diameter to Taper_select (as reduced_size)	<not_present>	M
@ae1198		Outer_diameter to Numeric_parameter (as feature_length)	@ae815	M
@ae1197		Outer_diameter to Numeric_parameter (as diameter)	@ae815.2	M
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,0)	S
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	80	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	25	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193	M
@ae1193.2		Outer_diameter		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'Outer diameter 2'	S
@ae1199		Outer_diameter to Taper_select (as reduced_size)	<not_present>	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae1198		Outer_diameter to Numeric_parameter (as feature_length)	@ae815.3	M
@ae1197		Outer_diameter to Numeric_parameter (as diameter)	@ae815.4	M
@ae1145.2		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,80)	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	40	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	18	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662.2		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193.2	M
@ae1606		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743		Machining_feature.usage_name	'Hole 1'	S
@ae1611		Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.3		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,90)	S
@ae136		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.5		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	9	S

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae665		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.3	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.6	M
@ae815.6		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'distance'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae544		Flat_hole_bottom		M
@ae60		Blind_bottom_condition.start_or_end	'hole start'	S
@ae1662.3		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606	M
@ae1606.2		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743		Machining_feature.usage_name	'Hole 2'	S
@ae1611		Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.4		Orientation		M
@ae1146		Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147		Orientation.location	(5,0,20)	S
@ae136.2		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.4	M
@ae815.7		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	5.4	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae665.2		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.4	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.8	M
@ae815.8		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'distance'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662.4		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae1606.3		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743		Machining_feature.usage_name	'Hole 3'	S
@ae1611		Round_hole to Blind_bottom_condition (as bottom_condition)	@ae544	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.3	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae1145.5		Orientation		M
@ae1146		Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147		Orientation.location	(-5,0,20)	S
@ae136.3		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.5	M
@ae665.3		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.5	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.8	M
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.3	M
@ae115	*	Catalogue_thread	#1000	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Cat thread'	S
@ae1869	*	Thread.english_or_metric	'metric'	S
@ae1874	*	Thread to Partial_area_definition (as partial_profile)	@ae1269.3	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1193.2	M
@ae1870	*	Thread.inner_or_outer_thread	'external'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364	M
@ae117	*	Catalogue_thread to Specification (as documentation)	@ae1756	M
@ae1145.6	*	Orientation	#1006	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,120)	S
@ae364	*	Descriptive_parameter	#1012	M
@ae1491	*	Property_parameter.parameter_name	'Nominal size'	S
@ae365	*	Descriptive_parameter.descriptive_string	'3/4 - 10 UNC - 1B'	S
@ae1756	*	Specification	#1019	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'Note 1'	S
@ae1759	*	Specification.specification_description	'For interpretation of screw thread'	S
@ae1758	*	Specification.specification_class	'FED-STD-H28 APPLIES'	S
@ae1662.6	*	Shape_aspect		M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae115	M
@ae346	*	Defined_thread	#900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Def thread 1'	S
@ae1869	*	Thread.english_or_metric	'external'	S
@ae1875	*	Thread to Partial_area_definition (as partial_profile)	@ae1269	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1193	M
@ae1870	*	Thread.inner_or_outer_thread	'external'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364.2	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae363	*	Defined_thread to Numeric_parameter (as pitch_diameter)	@ae815.10	M
@ae360	*	Defined_thread to Numeric_parameter (as minor_diameter)	@ae815.11	M
@ae358	*	Defined_thread to Numeric_parameter (as major_diameter)	@ae815.11	M
@ae361	*	Defined_thread to Numeric_parameter (as number_of_threads)	@ae815.12	M
@ae355	*	Defined_thread to Descriptive_parameter (as fit_class)	@ae364.3	M
@ae356	*	Defined_thread to Descriptive_parameter (as form)	@ae364.4	M
@ae357	*	Defined_thread to Descriptive_parameter (as thread_hand)	@ae364.5	M
@ae1145.7	*	Orientation	#906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae1269	*	Partial_area_definition	#927	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.9	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.7	M
@ae815.9	*	Numeric_parameter	#931	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	27	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae364.2	*	Descriptive_parameter	#911	M
@ae1491	*	Property_parameter.parameter_name	'thread size'	S
@ae365	*	Descriptive_parameter.descriptive_string	'M 25'	S
@ae815.10	*	Numeric_parameter	#910	M
@ae1491	*	Property_parameter.parameter_name	'pitch diameter'	S
@ae818	*	Numeric_parameter.parameter_value	23.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter	#908	M
@ae1491	*	Property_parameter.parameter_name	'major diameter'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.12	*	Numeric_parameter	#909	M
@ae1491	*	Property_parameter.parameter_name	'thread pitch'	S
@ae818	*	Numeric_parameter.parameter_value	1.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae364.3	*	Descriptive_parameter	#911	M
@ae1491	*	Property_parameter.parameter_name	'fit class'	S

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae365	*	Descriptive_parameter.descriptive_string	'normal'	S
@ae364.4	*	Descriptive_parameter	#912	M
@ae1491	*	Property_parameter.parameter_name	'form'	S
@ae365	*	Descriptive_parameter.descriptive_string	'metric'	S
@ae364.5	*	Descriptive_parameter	#913	M
@ae1491	*	Property_parameter.parameter_name	'thread hand'	S
@ae365	*	Descriptive_parameter.descriptive_string	'right'	S
@ae1662.7	*	Shape_aspect		M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae346	M
@ae346.2	*	Defined_thread	#1100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Def thread 2'	S
@ae1869	*	Thread.english_or_metric	'external'	S
@ae1875	*	Thread to Partial_area_definition (as partial_profile)	@ae1269.2	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1193	M
@ae1870	*	Thread.inner_or_outer_thread	'external'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364.2	M
@ae363	*	Defined_thread to Numeric_parameter (as pitch_diameter)	@ae815.10	M
@ae360	*	Defined_thread to Numeric_parameter (as minor_diameter)	@ae815.11	M
@ae358	*	Defined_thread to Numeric_parameter (as major_diameter)	@ae815.11	M
@ae361	*	Defined_thread to Numeric_parameter (as number_of_threads)	@ae815.12	M
@ae355	*	Defined_thread to Descriptive_parameter (as fit_class)	@ae364.3	M
@ae356	*	Defined_thread to Descriptive_parameter (as form)	@ae364.4	M
@ae357	*	Defined_thread to Descriptive_parameter (as thread_hand)	@ae364.5	M
@ae1145.8	*	Orientation	#1106	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(0,0,80)	S
@ae1269.2	*	Partial_area_definition	#1127	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.9	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.8	M
@ae1662.8		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae346.2	M
@ae346.3	*	Defined_thread	#800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'Def thread 3'	S
@ae1869	*	Thread.english_or_metric	'metric'	S
@ae1875	*	Thread to Partial_area_definition (as partial_profile)	@ae1269.3	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1606	M
@ae1870	*	Thread.inner_or_outer_thread	'internal'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364.6	M
@ae363	*	Defined_thread to Numeric_parameter (as pitch_diameter)	@ae815.14	M
@ae360	*	Defined_thread to Numeric_parameter (as minor_diameter)	@ae815.15	M
@ae358	*	Defined_thread to Numeric_parameter (as major_diameter)	@ae815.16	M
@ae361	*	Defined_thread to Numeric_parameter (as number_of_threads)	@ae815.17	M
@ae355	*	Defined_thread to Descriptive_parameter (as fit_class)	@ae364.7	M
@ae356	*	Defined_thread to Descriptive_parameter (as form)	@ae364.8	M
@ae357	*	Defined_thread to Descriptive_parameter (as thread_hand)	@ae364.9	M
@ae1145.9	*	Orientation	#806	M
@ae1146	*	Orientation.axis	(0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(0,0,120)	S
@ae1269.3	*	Partial_area_definition	#1127	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.13	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.9	M
@ae815.13	*	Numeric_parameter	#1131	M

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae364.6	*	Descriptive_parameter		M
@ae1491	*	Property_parameter.parameter_name	'nominal size'	S
@ae365	*	Descriptive_parameter.descriptive_string	'7/16-20 UNF-2A'	S
@ae815.14	*	Numeric_parameter	#810	M
@ae1491	*	Property_parameter.parameter_name	'pitch diameter'	S
@ae818	*	Numeric_parameter.parameter_value	0.82	S
@ae817	*	Numeric_parameter.parameter_units	'inch'	S
@ae815.15	*	Numeric_parameter	#809	M
@ae1491	*	Property_parameter.parameter_name	'minor diameter'	S
@ae818	*	Numeric_parameter.parameter_value	0.78	S
@ae817	*	Numeric_parameter.parameter_units	'inch'	S
@ae815.16	*	Numeric_parameter	#808	M
@ae1491	*	Property_parameter.parameter_name	'major diameter'	S
@ae818	*	Numeric_parameter.parameter_value	0.875	S
@ae817	*	Numeric_parameter.parameter_units	'inch'	S
@ae815.17	*	Numeric_parameter	#807	M
@ae1491	*	Property_parameter.parameter_name	'number of threads'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'threads per inch'	S
@ae364.7	*	Descriptive_parameter	#811	M
@ae1491	*	Property_parameter.parameter_name	'fit class'	S
@ae365	*	Descriptive_parameter.descriptive_string	'2A'	S
@ae364.8	*	Descriptive_parameter	#812	M
@ae1491	*	Property_parameter.parameter_name	'form'	S
@ae365	*	Descriptive_parameter.descriptive_string	'UNF'	S
@ae364.9	*	Descriptive_parameter	#813	M
@ae1491	*	Property_parameter.parameter_name	'thread hand'	S
@ae365	*	Descriptive_parameter.descriptive_string	'right'	S
@ae1662.9		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae346.3	M
@ae115.2	*	Catalogue_thread	#1200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743	*	Machining_feature.usage_name	'Cat thread 2'	S

Table 14 - Application elements for Thread (continued)

Id	V	Application elements	Value	Req
@ae1869	*	Thread.english_or_metric	'english'	S
@ae1875	*	Thread to Partial_area_definition (as partial_profile)	@ae1269.4	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1606.2	M
@ae1870	*	Thread.inner_or_outer_thread	'internal'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364.10	M
@ae117	*	Catalogue_thread to Specification (as documentation)	@ae1756.2	M
@ae1145.10	*	Orientation	#1206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(5,0,0)	S
@ae1269.4	*	Partial_area_definition	#1227	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.18	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.10	M
@ae815.18	*	Numeric_parameter	#1231	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	17	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae364.10	*	Descriptive_parameter	#1212	M
@ae1491	*	Property_parameter.parameter_name	'nominal size'	S
@ae365	*	Descriptive_parameter.descriptive_string	'M 6'	S
@ae1756.2	*	Specification	#1219	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'Note 1'	S
@ae1759	*	Specification.specification_description	'For interpretation of screw thread'	S
@ae1758	*	Specification.specification_class	'DIN XXX'	S
@ae1662.10	*	Shape_aspect		M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae115.2	M
@ae115.3	*	Catalogue_thread	#1300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.11	M
@ae743	*	Machining_feature.usage_name	'Cat thread 3'	S
@ae1869	*	Thread.english_or_metric	'english'	S

Table 14 - Application elements for Thread (concluded)

Id	V	Application elements	Value	Req
@ae1875	*	Thread to Partial_area_definition (as partial_profile)	@ae1269.5	M
@ae1876	*	Thread to Shape_element (as applied_shape)	@ae1606.3	M
@ae1870	*	Thread.inner_or_outer_thread	'external'	S
@ae1873	*	Thread to Descriptive_parameter (as qualifier)	@ae364.10	M
@ae117	*	Catalogue_thread to Specification (as documentation)	@ae1756.2	M
@ae1145.11	*	Orientation	#1306	M
@ae1146	*	Orientation.axis	-1,0,0,0,1,0,0,0,1	S
@ae1147	*	Orientation.location	(-5,0,0)	S
@ae1269.5	*	Partial_area_definition	#1227	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.18	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.11	M
@ae1662.11	*	Shape_aspect	#1225	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae115.3	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.14.2 Postprocessor**Test purposes covered:**

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 14, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim58,	@aim59,	@aim62,	@aim63,	@aim64,
@aim66,	@aim67,	@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,
@aim215,	@aim217,	@aim243,	@aim256,	@aim258,	@aim295,	@aim296,	@aim301,
@aim326,	@aim331,	@aim333,	@aim334,	@aim341,	@aim343,	@aim345,	@aim346,
@aim348,	@aim364,	@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,
@aim385,	@aim390,	@aim391,	@aim392,	@aim393,	@aim394,	@aim396,	@aim397,
@aim399,	@aim400,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,
@aim430,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,	@aim474,
@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim576,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,
@aim623,	@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,
@aim642,	@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim750,	@aim760,
@aim762,	@aim763,	@aim764,	@aim767,	@aim769,	@aim776,	@aim777,	@aim778,
@aim831,	@aim840,	@aim862,	@aim938,	@aim943,	@aim946,		

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 14 above apply.

Test case summary:

Note - The Marking test part is shown in the figure 12.

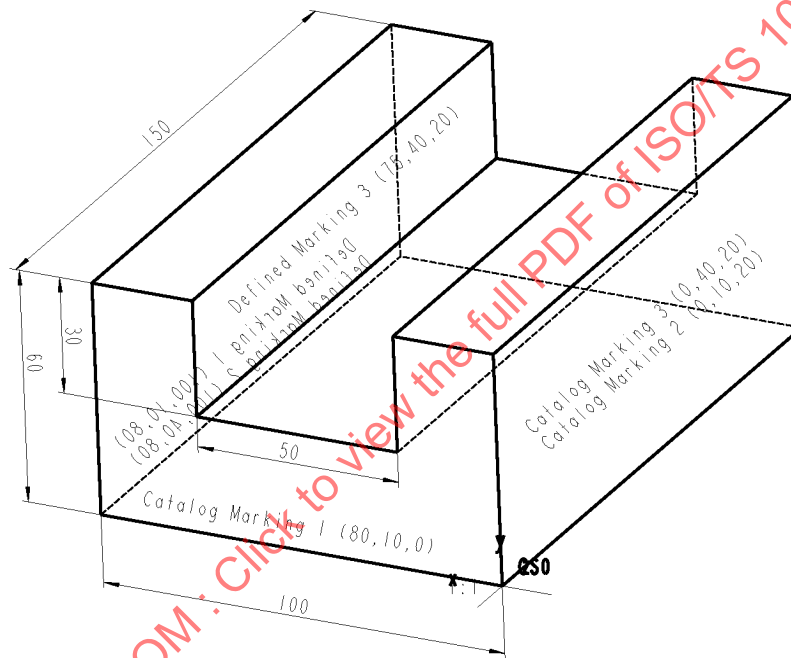


Figure 12 - Marking

6.15.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

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The following other test purpose is covered: other1.

Input specification:

Table 15 - Application elements for Marking

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Marking'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-35'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae818		Numeric_parameter.parameter_value	150	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(50,30,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	60	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Joe Buck'	S
@ae1322		Person.person_address	'1234 Mainstreet, Somewhere, NC 12345'	S
@ae1325		Person.person_phone_number	'(123)-456-7890'	S
@ae1323		Person.person_id	'123-PI-3456'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'3245-OI-6345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'1234 Rivers Ave., Somewhere, NC 12355'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'100x60x150'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae555		General_boss		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'General Boss'	S

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae76		Boss to Boss_top_condition (as top_condition)	@ae1368	M
@ae77		Boss to Linear_path (as boss_height)	@ae665	M
@ae78		Boss to Numeric_parameter (as fillet_radius)	@ae815.5	M
@ae558		General_boss to Closed_profile (as enclosed_boundary)	@ae1505	M
@ae559		General_boss to Angle_taper (as change_in_boundary)	<not_present>	M
@ae1145.2		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(50,30,0)	S
@ae1368		Planar_top_condition		M
@ae84		Boss_top_condition.start_or_end	'boss end'	S
@ae1372		Planar_top_condition to Location_element (as top_location)	@ae708	M
@ae1371		Planar_top_condition to Direction_element (as top_normal)	@ae436	M
@ae708		Location_element		M
@ae436		Direction_element		M
@ae665		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.2	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'distance'	S
@ae818		Numeric_parameter.parameter_value	150	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.5		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1505		Rectangular_closed_profile		M
@ae1982		Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.2	M
@ae1509		Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.5	M
@ae1510		Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.6	M
@ae815.6		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.7		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	100	S

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae555	M
@ae1737		Slot		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743		Machining_feature.usage_name	'Slot'	S
@ae1745		Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742		Slot to Numeric_parameter (as slot_depth)	@ae815.8	M
@ae1744		Slot to Path (as course_of_travel)	@ae665.2	M
@ae1743		Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.3		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(50,30,0)	S
@ae1126		Open_slot_end_type		M
@ae1751		Slot_end_type.first_or_second	'first'	S
@ae1126.2		Open_slot_end_type		M
@ae1752		Slot_end_type.first_or_second	'second'	S
@ae815.8		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'depth'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae665.2		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.3	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae815.4	M
@ae1790		Square_u_profile		M
@ae1421		Profile to Orientation (as placement)	@ae1145.3	M
@ae1796		Square_u_profile to Numeric_parameter (as first_angle)	@ae815.9	M
@ae1797		Square_u_profile to Numeric_parameter (as first_radius)	@ae815.5	M
@ae1798		Square_u_profile to Numeric_parameter (as second_angle)	@ae815.9	M
@ae1799		Square_u_profile to Numeric_parameter (as second_radius)	@ae815.5	M
@ae1800		Square_u_profile to Numeric_parameter (as width)	@ae815.10	M
@ae815.9		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'angle'	S
@ae818		Numeric_parameter.parameter_value	90	S
@ae817		Numeric_parameter.parameter_units	'Degree'	S

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae815.10		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662.2		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737	M
@ae112	*	Catalogue_marking	#1000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Cat Marking 1'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae555	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364	M
@ae114	*	Catalogue_marking to Specification (as documentation)	@ae1756	M
@ae1145.4	*	Orientation	#1006	M
@ae1146	*	Orientation.axis	(-1,0,0,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(80,10,0)	S
@ae364	*	Descriptive_parameter	#1010	M
@ae1491	*	Property_parameter.parameter_name	'Text'	S
@ae365	*	Descriptive_parameter.descriptive_string	'This is Cat Marking 1'	S
@ae1756	*	Specification	#1019	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ANSI/SAE-AS478-2A'	S
@ae1759	*	Specification.specification_description	'Marking Method'	S
@ae1758	*	Specification.specification_class	'ANSI/SAE'	S
@ae1662.3	*	Shape_aspect	#1017	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae112	M
@ae112.2	*	Catalogue_marking	#1100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Cat Marking 2'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae555	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364.2	M
@ae114	*	Catalogue_marking to Specification (as documentation)	@ae1756.2	M
@ae1145.5	*	Orientation	#1106	M

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,-1,0,0)	S
@ae1147	*	Orientation.location	(0,10,20)	S
@ae364.2	*	Descriptive_parameter	#1112	M
@ae1491	*	Property_parameter.parameter_name	'Text'	S
@ae365	*	Descriptive_parameter.descriptive_string	'Cat Marking 2 and 3'	S
@ae1756.2	*	Specification	#1119	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ANSI/SAE-AS478-2A'	S
@ae1759	*	Specification.specification_description	'Marking Method'	S
@ae1758	*	Specification.specification_class	'ANSI/SAE'	S
@ae1662.4	*	Shape_aspect	#1117	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae112.2	M
@ae112.3	*	Catalogue_marking	#1200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Car Marking 3'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae555	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364.2	M
@ae114	*	Catalogue_marking to Specification (as documentation)	@ae1756.2	M
@ae1145.6	*	Orientation	#1206	M
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,0,0,-1)	S
@ae1147	*	Orientation.location	(0,40,20)	S
@ae1662.5	*	Shape_aspect	#1217	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae112.3	M
@ae337	*	Defined_marking	#700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Def Marking 1'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae555	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364.3	M
@ae342	*	Defined_marking to Descriptive_parameter (as special_instructions)	@ae364.4	M
@ae343	*	Defined_marking to Descriptive_parameter (as font_name)	@ae364.5	M

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae344	*	Defined_marking to Numeric_parameter (as character_height)	@ae815.11	M
@ae345	*	Defined_marking to Numeric_parameter (as character_spacing)	@ae815.12	M
@ae1145.7	*	Orientation	#706	M
@ae1146	*	Orientation.axis	(0,0,-1,0,1,0,1,0,0)	S
@ae1147	*	Orientation.location	(100,10,80)	S
@ae364.3	*	Descriptive_parameter	#712	M
@ae1491	*	Property_parameter.parameter_name	'Text'	S
@ae365	*	Descriptive_parameter.descriptive_string	'Defined Marking 1 + 2'	S
@ae364.4	*	Descriptive_parameter	#713	M
@ae1491	*	Property_parameter.parameter_name	'Special Instructions'	S
@ae365	*	Descriptive_parameter.descriptive_string	'No Instructions'	S
@ae364.5	*	Descriptive_parameter	#714	M
@ae1491	*	Property_parameter.parameter_name	'Font Name'	S
@ae365	*	Descriptive_parameter.descriptive_string	'Helvetica'	S
@ae815.11	*	Numeric_parameter	#715	M
@ae1491	*	Property_parameter.parameter_name	'C height'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.12	*	Numeric_parameter	#716	M
@ae1491	*	Property_parameter.parameter_name	'C Spacing'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.6	*	Shape_aspect	#717	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae337	M
@ae337.2	*	Defined_marking	#800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Def Marking 2'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae555	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364.3	M
@ae342	*	Defined_marking to Descriptive_parameter (as special_instructions)	@ae364.4	M
@ae343	*	Defined_marking to Descriptive_parameter (as font_name)	@ae364.5	M
@ae344	*	Defined_marking to Numeric_parameter (as character_height)	@ae815.11	M
@ae345	*	Defined_marking to Numeric_parameter (as character_spacing)	@ae815.12	M

Table 15 - Application elements for Marking (continued)

Id	V	Application elements	Value	Req
@ae1145.8	*	Orientation	#806	M
@ae1146	*	Orientation.axis	(0,0,-1,0,1,0,1,0,0)	S
@ae1147	*	Orientation.location	(100,40,80)	S
@ae1662.7	*	Shape_aspect	#817	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae337.2	M
@ae337.3	*	Defined_marking	#900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'Def Marking 3'	S
@ae761	*	Marking to Shape_element (as applied_to_shape)	@ae1737	M
@ae760	*	Marking to Descriptive_parameter (as text)	@ae364.6	M
@ae342	*	Defined_marking to Descriptive_parameter (as special_instructions)	@ae364.7	M
@ae343	*	Defined_marking to Descriptive_parameter (as font_name)	@ae364.8	M
@ae344	*	Defined_marking to Numeric_parameter (as character_height)	@ae815.13	M
@ae345	*	Defined_marking to Numeric_parameter (as character_spacing)	@ae815.14	M
@ae1145.9	*	Orientation	#906	M
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,-1,0,0)	S
@ae1147	*	Orientation.location	(75,40,20)	S
@ae364.6	*	Descriptive_parameter	#912	M
@ae1491	*	Property_parameter.parameter_name	'Text'	S
@ae365	*	Descriptive_parameter.descriptive_string	'Defined Marking 3'	S
@ae364.7	*	Descriptive_parameter	#913	M
@ae1491	*	Property_parameter.parameter_name	'Special Instructions'	S
@ae365	*	Descriptive_parameter.descriptive_string	'No Instructions'	S
@ae364.8	*	Descriptive_parameter	#914	M
@ae1491	*	Property_parameter.parameter_name	'Font'	S
@ae365	*	Descriptive_parameter.descriptive_string	'Helvetica'	S
@ae815.13	*	Numeric_parameter	#915	M
@ae1491	*	Property_parameter.parameter_name	'C height'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.14	*	Numeric_parameter	#916	M
@ae1491	*	Property_parameter.parameter_name	'C Spacing'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.8	*	Shape_aspect	#917	M

Table 15 - Application elements for Marking (concluded)

Id	V	Application elements	Value	Req
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae337.3	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.15.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 15, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3, @aim4, @aim6, @aim36, @aim37, @aim39, @aim40, @aim42,
 @aim55, @aim57, @aim62, @aim63, @aim64, @aim66, @aim67, @aim74,
 @aim75, @aim77, @aim201, @aim203, @aim214, @aim215, @aim217, @aim242,
 @aim256, @aim258, @aim295, @aim296, @aim326, @aim331, @aim333, @aim334,
 @aim338, @aim341, @aim345, @aim346, @aim348, @aim359, @aim364, @aim365,
 @aim370, @aim371, @aim378, @aim379, @aim384, @aim385, @aim390, @aim391,
 @aim393, @aim394, @aim396, @aim397, @aim399, @aim400, @aim404, @aim415,
 @aim426, @aim427, @aim429, @aim430, @aim441, @aim442, @aim444, @aim456,

@aim458, @aim474, @aim489, @aim491, @aim494, @aim496, @aim499, @aim535,
@aim536, @aim576, @aim577, @aim579, @aim583, @aim586, @aim589, @aim590,
@aim592, @aim622, @aim623, @aim624, @aim636, @aim637, @aim639, @aim640,
@aim641, @aim642, @aim644, @aim649, @aim651, @aim747, @aim748, @aim750,
@aim760, @aim762, @aim763, @aim764, @aim767, @aim769, @aim776, @aim778,
@aim831, @aim938, @aim943, @aim946, @aim458

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 15 above apply.

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6.16 Knurl

Test case summary:

This abstract test case contains the ABS Knurl and Turned_knurl and also the relevant Subtypes, which are Catalogue_knurl, Straight_knurl, Diagonal_knurl and Diamond_knurl. The described part is shown in the figure below.

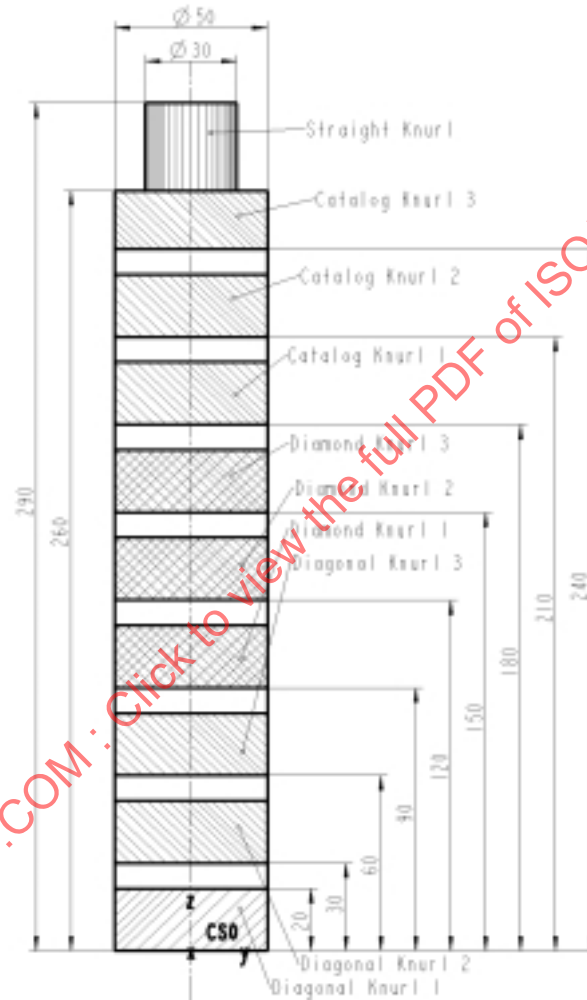


Figure 13 - Knurl

6.16.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 16 - Application elements for Knurl

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Knurl'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-534'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae271	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter		M

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	120	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	25	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Joe Buck'	S
@ae1322		Person.person_address	'2345 Citystreet, Somewhere, NC 22455'	S
@ae1325		Person.person_phone_number	'(123)-456-2435'	S
@ae1323		Person.person_id	'123-PI-456'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'123-OI-435'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Lake Blvd., Somewhere, NC 32255'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel Stick'	S
@ae767		Material.stock_size	'Stick 120x25'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1193	*	Outer_diameter	#634	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Outer round'	S
@ae1199	*	Outer_diameter to Taper_select (as reduced_size)	<not_present>	M
@ae1198	*	Outer_diameter to Numeric_parameter (as feature_length)	@ae815.3	M

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae1197	*	Outer_diameter to Numeric_parameter (as diameter)	@ae815.4	M
@ae1145.2	*	Orientation	#640	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae815.3	*	Numeric_parameter	#658	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	290	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.4	*	Numeric_parameter	#649	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193	M
@ae1203	*	Outer_diameter_to_shoulder	#700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Outer to shoulder'	S
@ae1206	*	Outer_diameter_to_shoulder to Numeric_parameter (as diameter)	@ae815.5	M
@ae1207	*	Outer_diameter_to_shoulder to Vee_profile (as v_shape_boundary)	@ae1964	M
@ae1145.3	*	Orientation	#706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,260)	S
@ae815.5	*	Numeric_parameter	#710	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1964	*	Vee_profile	#726	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1968	*	Vee_profile to Numeric_parameter (as profile_radius)	@ae815.6	M
@ae1970	*	Vee_profile to Numeric_parameter (as tilt_angle)	@ae815.7	M
@ae1969	*	Vee_profile to Numeric_parameter (as profile_angle)	@ae815.8	M
@ae1145.4	*	Orientation	#723	M
@ae1146	*	Orientation.axis	(0,0,1,0,1,0,-1,0,0)	S
@ae1147	*	Orientation.location	(0,15,260)	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae815.6	*	Numeric_parameter	#729	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.7	*	Numeric_parameter	#728	M
@ae1491	*	Property_parameter.parameter_name	'tilt angle'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.8	*	Numeric_parameter	#727	M
@ae1491	*	Property_parameter.parameter_name	'Profile angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1662.2	*	Shape_aspect	#733	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1203	M
@ae1809	*	Straight_knurl	#1400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Straight Knurl'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1203	M
@ae662	*	Knurl to Partial_area_definition (as partial_profile)	<not_present>	M
@ae1955	*	Turned_knurl to Numeric_parameter (as tooth_depth)	<not_present>	M
@ae1957	*	Turned_knurl to Numeric_parameter (as root_fillet)	<not_present>	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.9	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.10	M
@ae1961	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	<not_present>	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.11	M
@ae1145.5	*	Orientation	#1406	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,260)	S
@ae815.9	*	Numeric_parameter	#1408	M
@ae1491	*	Property_parameter.parameter_name	'major diameter'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.10	*	Numeric_parameter	#1409	M
@ae1491	*	Property_parameter.parameter_name	'nominal diameter'	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter	#1412	M
@ae1491	*	Property_parameter.parameter_name	'diametral pitch'	S
@ae818	*	Numeric_parameter.parameter_value	160	S
@ae817	*	Numeric_parameter.parameter_units	'teeth per inch'	S
@ae1662.3	*	Shape_aspect	#1416	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1809	M
@ae402	*	Diagonal_knurl	#800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Diagonal Knurl 1'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.13	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.14	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.15	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.16	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.17	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.18	M
@ae406	*	Diagonal_knurl to Numeric_parameter (as helix_angle)	@ae815.19	M
@ae405	*	Diagonal_knurl to Descriptive_parameter (as helix_hand)	@ae364	M
@ae1145.6	*	Orientation	#806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae1269	*	Partial_area_definition	#824	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.12	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.6	M
@ae815.12	*	Numeric_parameter	#828	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	20	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.13	*	Numeric_parameter	#810	M
@ae1491	*	Property_parameter.parameter_name	'tooth depth'	S
@ae818	*	Numeric_parameter.parameter_value	0.1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.14	*	Numeric_parameter	#811	M
@ae1491	*	Property_parameter.parameter_name	'root fillet'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.15	*	Numeric_parameter	#808	M
@ae1491	*	Property_parameter.parameter_name	'major diameter'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.16	*	Numeric_parameter	#809	M
@ae1491	*	Property_parameter.parameter_name	'nominal diameter'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.17	*	Numeric_parameter	#807	M
@ae1491	*	Property_parameter.parameter_name	'number of teeth'	S
@ae818	*	Numeric_parameter.parameter_value	315	S
@ae817	*	Numeric_parameter.parameter_units	'teeth'	S
@ae815.18	*	Numeric_parameter	#812	M
@ae1491	*	Property_parameter.parameter_name	'diametral pitch'	S
@ae818	*	Numeric_parameter.parameter_value	160	S
@ae817	*	Numeric_parameter.parameter_units	'teeth per inch'	S
@ae815.19	*	Numeric_parameter	#813	M
@ae1491	*	Property_parameter.parameter_name	'helix angle'	S
@ae818	*	Numeric_parameter.parameter_value	45	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae364	*	Descriptive_parameter	#814	M
@ae1491	*	Property_parameter.parameter_name	'helix hand'	S
@ae365	*	Descriptive_parameter.descriptive_string	'clockwise'	S
@ae1662.4	*	Shape_aspect	#816	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae402	M
@ae402.2	*	Diagonal_knurl	#900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Diagonal Knurl 2'	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.2	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.21	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.22	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.23	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.24	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.25	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.26	M
@ae406	*	Diagonal_knurl to Numeric_parameter (as helix_angle)	@ae815.27	M
@ae405	*	Diagonal_knurl to Descriptive_parameter (as helix_hand)	@ae364.2	M
@ae1145.7	*	Orientation	#906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,30)	S
@ae1269.2	*	Partial_area_definition	#924	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.7	M
@ae815.20	*	Numeric_parameter	#928	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.21	*	Numeric_parameter	#910	M
@ae1491	*	Property_parameter.parameter_name	'tooth depth'	S
@ae818	*	Numeric_parameter.parameter_value	0.1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.22	*	Numeric_parameter	#911	M
@ae1491	*	Property_parameter.parameter_name	'root fillet'	S
@ae818	*	Numeric_parameter.parameter_value	0.1	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.23	*	Numeric_parameter	#908	M
@ae1491	*	Property_parameter.parameter_name	'major diameter'	S
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.24	*	Numeric_parameter	#909	M
@ae1491	*	Property_parameter.parameter_name	'nominal diameter'	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	50	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.25	*	Numeric_parameter	#907	M
@ae1491	*	Property_parameter.parameter_name	'number of teeth'	S
@ae818	*	Numeric_parameter.parameter_value	315	S
@ae817	*	Numeric_parameter.parameter_units	'teeth'	S
@ae815.26	*	Numeric_parameter	#912	M
@ae1491	*	Property_parameter.parameter_name	'diametral pitch'	S
@ae818	*	Numeric_parameter.parameter_value	160	S
@ae817	*	Numeric_parameter.parameter_units	'teeth per inch'	S
@ae815.27	*	Numeric_parameter	#913	M
@ae1491	*	Property_parameter.parameter_name	'helix angle'	S
@ae818	*	Numeric_parameter.parameter_value	45	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae364.2	*	Descriptive_parameter	#914	M
@ae1491	*	Property_parameter.parameter_name	'helix hand'	S
@ae365	*	Descriptive_parameter.descriptive_string	'counterclockwise'	S
@ae1662.5	*	Shape_aspect	#833	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae402.2	M
@ae402.3	*	Diagonal_knurl	#1000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Diagonal Knurl 3'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.3	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.21	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.22	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.23	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.24	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.25	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.26	M
@ae406	*	Diagonal_knurl to Numeric_parameter (as helix_angle)	@ae815.27	M
@ae405	*	Diagonal_knurl to Descriptive_parameter (as helix_hand)	@ae364.2	M

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae1145.8	*	Orientation	#1006	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,60)	S
@ae1269.3	*	Partial_area_definition	#1024	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.8	M
@ae1662.6	*	Shape_aspect	#1016	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae402.3	M
@ae420	*	Diamond_knurl	#1100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'Diamond Knurl 1'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.4	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.21	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.22	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.23	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.24	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.25	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.25	M
@ae422	*	Diamond_knurl to Numeric_parameter (as helix_angle)	@ae815.28	M
@ae1145.9	*	Orientation	#1106	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,90)	S
@ae1269.4	*	Partial_area_definition	#1124	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.9	M
@ae815.28	*	Numeric_parameter	#1113	M
@ae1491	*	Property_parameter.parameter_name	'helix angle'	S
@ae818	*	Numeric_parameter.parameter_value	45	S

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1662.7	*	Shape_aspect	#1116	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae420	M
@ae420.2	*	Diamond_knurl	#1200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743	*	Machining_feature.usage_name	'Diamond Knurl 2'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.5	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.21	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.22	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.23	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.24	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.25	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.26	M
@ae422	*	Diamond_knurl to Numeric_parameter (as helix_angle)	@ae815.27	M
@ae1145.10	*	Orientation	#1206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,120)	S
@ae1269.5	*	Partial_area_definition	#1224	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.10	M
@ae1662.8	*	Shape_aspect	#1216	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae420.2	M
@ae420.3	*	Diamond_knurl	#1300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.11	M
@ae743	*	Machining_feature.usage_name	'Diamond Knurl 3'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.6	M
@ae1956	*	Turned_knurl to Numeric_parameter (as tooth_depth)	@ae815.21	M
@ae1958	*	Turned_knurl to Numeric_parameter (as root_fillet)	@ae815.22	M
@ae1959	*	Turned_knurl to Numeric_parameter (as major_diameter)	@ae815.23	M
@ae1960	*	Turned_knurl to Numeric_parameter (as nominal_diameter)	@ae815.24	M
@ae1962	*	Turned_knurl to Numeric_parameter (as number_of_teeth)	@ae815.25	M
@ae1963	*	Turned_knurl to Numeric_parameter (as diametral_pitch)	@ae815.26	M
@ae422	*	Diamond_knurl to Numeric_parameter (as helix_angle)	@ae815.27	M
@ae1145.11	*	Orientation	#1306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,150)	S
@ae1269.6	*	Partial_area_definition	#1324	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.11	M
@ae1662.9	*	Shape_aspect	#1316	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae420.3	M
@ae109	*	Catalogue_knurl	#1500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.12	M
@ae743	*	Machining_feature.usage_name	'Catalog Knurl 1'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.7	M
@ae111	*	Catalogue_knurl to Specification (as documentation)	@ae1756	M
@ae1145.12	*	Orientation	#1506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,180)	S
@ae1269.7	*	Partial_area_definition	#1524	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.12	M
@ae1756	*	Specification	#1512	M

Table 16 - Application elements for Knurl (continued)

Id	V	Application elements	Value	Req
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ANSI B94.6-1984'	S
@ae1759	*	Specification.specification_description	'ANSI Standard Specification for Cylindrical Knurls'	S
@ae1758	*	Specification.specification_class	'P160'	S
@ae1662.10	*	Shape_aspect	#1534	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae109	M
@ae109.2	*	Catalogue_knurl	#1600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.13	M
@ae743	*	Machining_feature.usage_name	'Catalog Knurl 2'	S
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.8	M
@ae111	*	Catalogue_knurl to Specification (as documentation)	@ae1756.2	M
@ae1145.13	*	Orientation	#1606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,210)	S
@ae1269.8	*	Partial_area_definition	#1624	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.13	M
@ae1756.2	*	Specification	#1612	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ANSI B94.6-1984'	S
@ae1759	*	Specification.specification_description	'Standard Specification for Cylindrical Knurls'	S
@ae1758	*	Specification.specification_class	'P160'	S
@ae1662.11	*	Shape_aspect	#1634	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae109.2	M
@ae109.3	*	Catalogue_knurl	#1700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.14	M
@ae743	*	Machining_feature.usage_name	'Catalog Knurl 3'	S

Table 16 - Application elements for Knurl (concluded)

Id	V	Application elements	Value	Req
@ae664	*	Knurl to Shape_element (as applied_shape)	@ae1193	M
@ae663	*	Knurl to Partial_area_definition (as partial_profile)	@ae1269.9	M
@ae111	*	Catalogue_knurl to Specification (as documentation)	@ae1756.2	M
@ae1145.14	*	Orientation	#1706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,240)	S
@ae1269.9	*	Partial_area_definition	#1724	M
@ae1272	*	Partial_area_definition to Numeric_parameter (as applied_length)	@ae815.20	M
@ae1273	*	Partial_area_definition to Orientation (as placement)	@ae1145.14	M
@ae1662.12	*	Shape_aspect	#1734	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae109.3	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.16.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 16, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim55,	@aim57,	@aim58,	@aim59,	@aim62,	@aim63,	@aim64,
@aim66,	@aim67,	@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,
@aim215,	@aim217,	@aim243,	@aim256,	@aim258,	@aim295,	@aim296,	@aim301,
@aim326,	@aim331,	@aim333,	@aim334,	@aim338,	@aim341,	@aim345,	@aim346,
@aim348,	@aim359,	@aim364,	@aim365,	@aim370,	@aim371,	@aim378,	@aim379,
@aim384,	@aim385,	@aim390,	@aim391,	@aim393,	@aim394,	@aim396,	@aim397,
@aim399,	@aim400,	@aim402,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,
@aim429,	@aim430,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,
@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,	@aim536,
@aim576,	@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,
@aim622,	@aim623,	@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,
@aim641,	@aim642,	@aim644,	@aim649,	@aim651,	@aim747,	@aim748,	@aim750,
@aim760,	@aim762,	@aim763,	@aim764,	@aim768,	@aim769,	@aim773,	@aim775,
@aim776,	@aim777,	@aim778,	@aim831,	@aim840,	@aim938,	@aim939,	@aim940,
@aim875	@aim943,	@aim946					

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 16 above apply.

6.17 Circular_pattern

Test case summary:

This abstract test case contains the Replicate_feature and the relevant Subtypes, which are Replicate_base Circular_pattern, Circular_omit_pattern and Circular_offset_pattern.

Note - The Circular_patteren test part is shown in the figure 14.

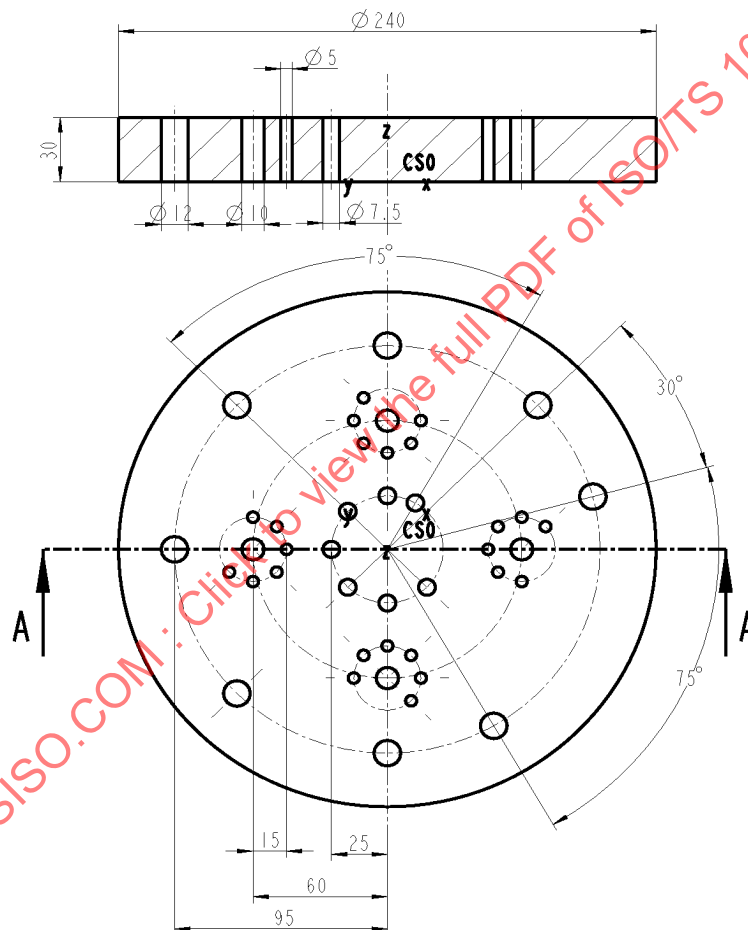


Figure 14 - Circular_pattern

6.17.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 17 - Application elements for Circular_pattern

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Circular Pattern'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'12345-PA-67'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329.3)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae271	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae271		Cylindrical_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae273		Cylindrical_base_shape to Numeric_parameter (as diameter)	@ae815.2	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,0)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	240	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1321		Person		M
@ae1324		Person.person_name	'John Smith'	S
@ae1322		Person.person_address	'1234 Riverstreet, Charleston, SC 12345'	S
@ae1325		Person.person_phone_number	'(804) 1234-5678'	S
@ae1323		Person.person_id	'12345-PE-12'	S
@ae1321.2		Person		M
@ae1324		Person.person_name	'Bill Jones'	S
@ae1322		Person.person_address	'1256 Meetingstreet, Charleston, SC 12345'	S
@ae1325		Person.person_phone_number	'(804) 1234-8765'	S
@ae1323		Person.person_id	'12345-PE-23'	S
@ae1321.3		Person		M
@ae1324		Person.person_name	'Jill Baker'	S
@ae1322		Person.person_address	'4567 Lake Blvd., Charleston 12345'	S
@ae1325		Person.person_phone_number	'(804) 1234-7896'	S
@ae1323		Person.person_id	'12345-PE-34'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'12345-OR-67'	S
@ae1136		Organization.organization_name	'Makeit INC.'	S
@ae1134		Organization.organization_address	'4567 Airport Blvd., Charleston, SC 12345'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1329.2		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321.2	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Supervisor'	S
@ae1329.3		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321.3	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Seller'	S
@ae1321.4		Person		M
@ae1324		Person.person_name	'Ted Cocker'	S
@ae1322		Person.person_address	'5361 Sunshine Blvd., Anywhere, IA 76341'	S
@ae1325		Person.person_phone_number	'(835) 1234-6432'	S
@ae1323		Person.person_id	'54321-PE-87'	S
@ae1133.2		Organization		M
@ae1135		Organization.organization_id	'54321-OR-87'	S
@ae1136		Organization.organization_name	'Wantit INC.'	S
@ae1134		Organization.organization_address	'8567 Portstreet, Anywhere, IA 67854'	S
@ae1329.4		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321.4	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133.2	M
@ae1332		Person_in_organization.role	'Buyer'	S
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae762		Material		M
@ae765		Material.material_id	'Steel Alloy 8640'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'240 x 30'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1193		Outer_diameter		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'Outer diameter'	S
@ae1199		Outer_diameter to Taper_select (as reduced_size)	<not_present>	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1198		Outer_diameter to Numeric_parameter (as feature_length)	@ae815.3	M
@ae1197		Outer_diameter to Numeric_parameter (as diameter)	@ae815.4	M
@ae1145.2		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(0,0,0)	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	240	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1193	M
@ae1606	*	Round_hole	#3700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Hole 1'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.3	*	Orientation	#3706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(42.426,42.426,0)	S
@ae1877	*	Through_bottom_condition	#3736	M
@ae136	*	Circular_closed_profile		M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.5	*	Numeric_parameter	#3717	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#3723	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.2	*	Shape_aspect	#3707	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606	M
@ae162	*	Circular_pattern	#4720	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.4	M
@ae169	*	Circular_pattern to Circular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae172	*	Circular_pattern to Circular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae175	*	Circular_pattern to Numeric_parameter (as angular_spacing)	@ae815.6	M
@ae176	*	Circular_pattern to Numeric_parameter (as base_feature_diameter)	@ae815.7	M
@ae177	*	Circular_pattern to Numeric_parameter (as base_feature_rotation)	@ae815.8	M
@ae178	*	Circular_pattern to Numeric_parameter (as number_of_features)	@ae815.9	M
@ae1557	*	Replicate_base	#4722	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606	M
@ae1145.4	*	Orientation	#4719	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae815.6	*	Numeric_parameter	#4739	M
@ae1491	*	Property_parameter.parameter_name	'angular spacing'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.7	*	Numeric_parameter	#4741	M
@ae1491	*	Property_parameter.parameter_name	'base feature diameter'	S
@ae818	*	Numeric_parameter.parameter_value	120	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#4740	M
@ae1491	*	Property_parameter.parameter_name	'base feature rotation'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.9	*	Numeric_parameter	#4734	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1491	*	Property_parameter.parameter_name	'number of features'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'features'	S
@ae1662.3		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae162	M
@ae1606.2	*	Round_hole	#3900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Hole 2'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.5	*	Orientation	#3906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(31.82,31.82,0)	S
@ae136.2	*	Circular_closed_profile	#3913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.5	M
@ae815.10	*	Numeric_parameter	#3917	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.2	*	Linear_path	#3923	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.4	*	Shape_aspect	#3907	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae162.2	*	Circular_pattern	#4920	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.2	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.3	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae169	*	Circular_pattern to Circular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae174	*	Circular_pattern to Circular_omit_pattern (as missing_base_feature)	#4982, (@ae152,@ae152.2)	S
@ae175	*	Circular_pattern to Numeric_parameter (as angular_spacing)	@ae815.12	M
@ae176	*	Circular_pattern to Numeric_parameter (as base_feature_diameter)	@ae815.13	M
@ae177	*	Circular_pattern to Numeric_parameter (as base_feature_rotation)	@ae815.8	M
@ae178	*	Circular_pattern to Numeric_parameter (as number_of_features)	@ae815.14	M
@ae1557.2	*	Replicate_base	#4922	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.2	M
@ae152	*	Circular_omit_pattern	#4975	M
@ae154	*	Circular_omit_pattern to Numeric_parameter (as omit_index)	@ae815.11	M
@ae815.11	*	Numeric_parameter	#4965	M
@ae1491	*	Property_parameter.parameter_name	'omit index'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'index'	S
@ae815.12	*	Numeric_parameter	#4939	M
@ae1491	*	Property_parameter.parameter_name	'angular spacing'	S
@ae818	*	Numeric_parameter.parameter_value	45	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.13	*	Numeric_parameter	#4941	M
@ae1491	*	Property_parameter.parameter_name	'base feature diameter'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.14	*	Numeric_parameter	#4934	M
@ae1491	*	Property_parameter.parameter_name	'number of features'	S
@ae818	*	Numeric_parameter.parameter_value	8	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae162.2	M
@ae162.3	*	Circular_pattern	#5020	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.3	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.6	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae169	*	Circular_pattern to Circular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae172	*	Circular_pattern to Circular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae175	*	Circular_pattern to Numeric_parameter (as angular_spacing)	@ae815.15	M
@ae176	*	Circular_pattern to Numeric_parameter (as base_feature_diameter)	@ae815.7	M
@ae177	*	Circular_pattern to Numeric_parameter (as base_feature_rotation)	@ae815.16	M
@ae178	*	Circular_pattern to Numeric_parameter (as number_of_features)	@ae815.9	M
@ae1557.3	*	Replicate_base	#5022	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae162.2	M
@ae1145.6	*	Orientation	#5029	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae815.15	*	Numeric_parameter	#5039	M
@ae1491	*	Property_parameter.parameter_name	'angular spacing'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.16	*	Numeric_parameter	#5040	M
@ae1491	*	Property_parameter.parameter_name	'base feature rotation'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1662.6		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae162.3	M
@ae1606.3	*	Round_hole	#3800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Hole 3'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.3	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae1145.7	*	Orientation	#3806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1147	*	Orientation.location	(0,25,0)	S
@ae136.3	*	Circular_closed_profile	#3813	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.7	M
@ae815.17	*	Numeric_parameter	#3817	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	7.5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.3	*	Linear_path	#3823	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.7	*	Shape_aspect	#3907	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.3	M
@ae162.4	*	Circular_pattern	#4820	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.4	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.8	M
@ae170	*	Circular_pattern to Circular_offset_pattern (as relocated_base_feature)	(@ae145)	S
@ae173	*	Circular_pattern to Circular_omit_pattern (as missing_base_feature)	(@ae152.2)	S
@ae175	*	Circular_pattern to Numeric_parameter (as angular_spacing)	@ae815.12	M
@ae176	*	Circular_pattern to Numeric_parameter (as base_feature_diameter)	@ae815.19	M
@ae177	*	Circular_pattern to Numeric_parameter (as base_feature_rotation)	@ae815.20	M
@ae178	*	Circular_pattern to Numeric_parameter (as number_of_features)	@ae815.21	M
@ae1557.4	*	Replicate_base	#4822	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.3	M
@ae1145.8	*	Orientation	#4829	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae152.2	*	Circular_omit_pattern	#4956	M
@ae154	*	Circular_omit_pattern to Numeric_parameter (as omit_index)	@ae815.18	M
@ae815.18	*	Numeric_parameter	#4965	M
@ae1491	*	Property_parameter.parameter_name	'omit index'	S

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	6	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae815.19	*	Numeric_parameter	#4941	M
@ae1491	*	Property_parameter.parameter_name	'base feature diameter'	S
@ae818	*	Numeric_parameter.parameter_value	25	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.20	*	Numeric_parameter	#4940	M
@ae1491	*	Property_parameter.parameter_name	'base feature rotation'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.21	*	Numeric_parameter	#4965	M
@ae1491	*	Property_parameter.parameter_name	'number of features'	S
@ae818	*	Numeric_parameter.parameter_value	8	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae1662.8		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae162.4	M
@ae152.3	*	Circular_omit_pattern	#4975	M
@ae154	*	Circular_omit_pattern to Numeric_parameter (as omit_index)	@ae815.22	M
@ae815.22	*	Numeric_parameter	#4980	M
@ae1491	*	Property_parameter.parameter_name	'omit index'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae1606.4	*	Round_hole	#4000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'Hole 4'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.4	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.4	M
@ae1145.9	*	Orientation	#4006	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(95,0,0)	S
@ae136.4	*	Circular_closed_profile	#4013	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.9	M

Table 17 - Application elements for Circular_pattern (continued)

Id	V	Application elements	Value	Req
@ae815.23	*	Numeric_parameter	#4017	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	12	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665.4	*	Linear_path	#4023	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.9	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.9	*	Shape_aspect	#4007	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.4	M
@ae162.5	*	Circular_pattern	#5120	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.5	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.10	M
@ae171	*	Circular_pattern to Circular_offset_pattern (as relocated_base_feature)	(@ae145,@ae145.2)	S
@ae172	*	Circular_pattern to Circular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae175	*	Circular_pattern to Numeric_parameter (as angular_spacing)	@ae815.28	M
@ae176	*	Circular_pattern to Numeric_parameter (as base_feature_diameter)	@ae815.29	M
@ae177	*	Circular_pattern to Numeric_parameter (as base_feature_rotation)	@ae815.30	M
@ae178	*	Circular_pattern to Numeric_parameter (as number_of_features)	@ae815.31	M
@ae1557.5	*	Replicate_base		M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.4	M
@ae1145.10	*	Orientation	#5129	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(0,0,0)	S
@ae145	*	Circular_offset_pattern	#5156	M
@ae148	*	Circular_offset_pattern to Numeric_parameter (as angular_offset)	@ae815.24	M
@ae149	*	Circular_offset_pattern to Numeric_parameter (as index_number)	@ae815.25	M
@ae815.24	*	Numeric_parameter	#5161	M
@ae1491	*	Property_parameter.parameter_name	'angular offset'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S

Table 17 - Application elements for Circular_pattern (concluded)

Id	V	Application elements	Value	Req
@ae815.25	*	Numeric_parameter	#5165	M
@ae1491	*	Property_parameter.parameter_name	'index number'	S
@ae818	*	Numeric_parameter.parameter_value	7	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae145.2	*	Circular_offset_pattern	#5175	M
@ae148	*	Circular_offset_pattern to Numeric_parameter (as angular_offset)	@ae815.26	M
@ae149	*	Circular_offset_pattern to Numeric_parameter (as index_number)	@ae815.27	M
@ae815.26	*	Numeric_parameter	#5180	M
@ae1491	*	Property_parameter.parameter_name	'angular offset'	S
@ae818	*	Numeric_parameter.parameter_value	15	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.27	*	Numeric_parameter	#5181	M
@ae1491	*	Property_parameter.parameter_name	'index number'	S
@ae818	*	Numeric_parameter.parameter_value	8	S
@ae817	*	Numeric_parameter.parameter_units	'feature'	S
@ae815.28	*	Numeric_parameter	#5139	M
@ae1491	*	Property_parameter.parameter_name	'angular spacing'	S
@ae818	*	Numeric_parameter.parameter_value	45	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.29	*	Numeric_parameter	#5141	M
@ae1491	*	Property_parameter.parameter_name	'base feature diameter'	S
@ae818	*	Numeric_parameter.parameter_value	190	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.30	*	Numeric_parameter	#5141	M
@ae1491	*	Property_parameter.parameter_name	'base feature rotation'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.31	*	Numeric_parameter	#5134	M
@ae1491	*	Property_parameter.parameter_name	'number of features'	S
@ae818	*	Numeric_parameter.parameter_value	8	S
@ae817	*	Numeric_parameter.parameter_units	'features'	S
@ae1662.10		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae162.5	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.17.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 17, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim42,
@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,	@aim74,
@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,	@aim242,
@aim243,	@aim244,	@aim245,	@aim248,	@aim249,	@aim256,	@aim295,	@aim296,
@aim301,	@aim326,	@aim331,	@aim333,	@aim334,	@aim335,	@aim336,	@aim345,
@aim346,	@aim348,	@aim364,	@aim365,	@aim370,	@aim371,	@aim378,	@aim379,
@aim384,	@aim385,	@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,
@aim402,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,
@aim432,	@aim433,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,
@aim470,	@aim471,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,
@aim535,	@aim536,	@aim565,	@aim566,	@aim572,	@aim573,	@aim576,	@aim577,
@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,	@aim623,
@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,	@aim642,

@aim644, @aim649, @aim651, @aim747, @aim748, @aim750, @aim760, @aim762,
@aim763, @aim764, @aim768, @aim769, @aim773, @aim775, @aim776, @aim777,
@aim778, @aim831, @aim840, @aim938, @aim943, @aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 17 above apply.

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Test case summary:

Note - The Rectangular_pattern part is shown in the figure 15.



Test purposes covered:

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In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 18 - Application elements for Rectangular_pattern

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Rectangular Pattern'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-654'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12,@ae1662.13,@ae1662.14,@ae1662.15,@ae1662.16,@ae1662.17,@ae1662.18,@ae1662.19)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	120	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147		Orientation.location	(75,0,15)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	150	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Paul Auster'	S
@ae1322		Person.person_address	'3456 Dutch Blvd., Somewhere, NY 23445'	S
@ae1325		Person.person_phone_number	'(555)-234-4567'	S
@ae1323		Person.person_id	'123-PI-645'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'456-OI-345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Park Ave., Some where, NY 23455'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'150x120x30'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae570		General_outside_profile		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'Block'	S
@ae572		General_outside_profile to Profile (as boundary)	@ae1505	M
@ae1145.2		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147		Orientation.location	(75,0,15)	S
@ae1505		Rectangular_closed_profile		M
@ae1982		Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.2	M
@ae1509		Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.4	M
@ae1510		Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.5	M
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.5		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	150	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.6		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae570	M
@ae1606	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Hole 1'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.3	*	Orientation	#3706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(10,10,0)	S
@ae1877	*	Through_bottom_condition	#5636	M
@ae136	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.7	*	Numeric_parameter	#5617	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.2	*	Shape_aspect	#5607	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606	M
@ae1536	*	Rectangular_pattern	#7120	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.3	M
@ae1551	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae1554	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.8	M
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.9	M
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.10	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.11	M
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.2	M
@ae1557	*	Replicate_base	#7122	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606	M
@ae815.8	*	Numeric_parameter	#7134	M
@ae1491	*	Property_parameter.parameter_name	'number of rows'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'rows'	S
@ae815.9	*	Numeric_parameter	#7135	M
@ae1491	*	Property_parameter.parameter_name	'number of columns'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'columns'	S
@ae815.10	*	Numeric_parameter	#7136	M
@ae1491	*	Property_parameter.parameter_name	'row spacing'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter	#7137	M
@ae1491	*	Property_parameter.parameter_name	'column spacing'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae436	*	Direction_element	#7128	M
@ae436.2	*	Direction_element	#7129	M
@ae88	*	Brep_model	#5580	M
@ae98		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element	#7126	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.2		Brep_model_element	#7127	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.3		Shape_aspect	#7128	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.4		Shape_aspect	#7129	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1667	*	Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.2)	S
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae436.2	M
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536	M
@ae1606.2	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Hole 2'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.4	*	Orientation	#5606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(10,50,0)	S
@ae136.2	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.4	M
@ae665.2	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.6	*	Shape_aspect	#5607	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae1536.2	*	Rectangular_pattern	#7404	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.2	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.4	M
@ae1551	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae1555	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	((@ae1526)	S
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.14	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.15	M
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.16	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.17	M
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436.3	M
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.4	M
@ae1557.2	*	Replicate_base	#7406	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.2	M
@ae1526	*	Rectangular_omit_pattern	#7418	M
@ae1530	*	Rectangular_omit_pattern to Numeric_parameter (as column_index)	@ae815.12	M
@ae1529	*	Rectangular_omit_pattern to Numeric_parameter (as row_index)	@ae815.13	M
@ae815.12	*	Numeric_parameter	#7427	M
@ae1491	*	Property_parameter.parameter_name	'column index'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'column'	S
@ae815.13	*	Numeric_parameter	#7428	M
@ae1491	*	Property_parameter.parameter_name	'row index'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'row'	S
@ae815.14	*	Numeric_parameter	#7134	M
@ae1491	*	Property_parameter.parameter_name	'number of rows'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'rows'	S
@ae815.15	*	Numeric_parameter	#7135	M
@ae1491	*	Property_parameter.parameter_name	'number of columns'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'columns'	S
@ae815.16	*	Numeric_parameter	#7136	M
@ae1491	*	Property_parameter.parameter_name	'row spacing'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.17	*	Numeric_parameter	#7137	M
@ae1491	*	Property_parameter.parameter_name	'column spacing'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae436.3	*	Direction_element	#7412	M

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae436.4	*	Direction_element	#7413	M
@ae98.3		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.4		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.3		Brep_model_element	#7410	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.4		Brep_model_element	#7412	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.7		Shape_aspect	#7412	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.4)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.4	M
@ae1662.8		Shape_aspect	#7413	M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536.2	M
@ae1606.3	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Hole 3'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.3	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae1145.5	*	Orientation	#5605	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(10,90,0)	S
@ae136.3	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.5	M
@ae665.3	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.9	*	Shape_aspect	#5607	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.3	M
@ae1536.3	*	Rectangular_pattern	#7504	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.3	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.5	M
@ae1551	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	<not_present>	M
@ae1556	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	(@ae1526,@ae1526.2)	S
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.14	M
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.15	M
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.16	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.17	M
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436.3	M
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.4	M
@ae1557.3	*	Replicate_base	#7506	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.3	M
@ae1526.2	*	Rectangular_omit_pattern	#7518	M
@ae1530	*	Rectangular_omit_pattern to Numeric_parameter (as column_index)	@ae815.18	M
@ae1529	*	Rectangular_omit_pattern to Numeric_parameter (as row_index)	@ae815.19	M
@ae815.18	*	Numeric_parameter	#7527	M
@ae1491	*	Property_parameter.parameter_name	'column index'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'column'	S
@ae815.19	*	Numeric_parameter	#7528	M
@ae1491	*	Property_parameter.parameter_name	'row index'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'row'	S
@ae1662.10		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536.3	M
@ae1606.4	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Hole 4'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.4	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.4	M
@ae1145.6	*	Orientation	#5606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(140,10,0)	S
@ae136.4	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.6	M
@ae665.4	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.11	*	Shape_aspect	#5607	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.4	M
@ae1536.4	*	Rectangular_pattern	#7120	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.4	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.6	M
@ae1552	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	(@ae1515)	S
@ae1554	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.14	M
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.15	M
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.16	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.17	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436.6	M
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.7	M
@ae1557.4	*	Replicate_base	#7122	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.4	M
@ae1515	*	Rectangular_offset_pattern	#7156	M
@ae1523	*	Rectangular_offset_pattern to Numeric_parameter (as row_index)	@ae815.20	M
@ae1521	*	Rectangular_offset_pattern to Numeric_parameter (as column_index)	@ae815.21	M
@ae1522	*	Rectangular_offset_pattern to Numeric_parameter (as offset_distance)	@ae815.22	M
@ae1520	*	Rectangular_offset_pattern to Direction_element (as offset_direction)	@ae436.5	M
@ae815.20	*	Numeric_parameter		M
@ae1491	*	Property_parameter.parameter_name	'row index'	S
@ae818	*	Numeric_parameter.parameter_value	2	S
@ae817	*	Numeric_parameter.parameter_units	'row'	S
@ae815.21	*	Numeric_parameter	#7165	M
@ae1491	*	Property_parameter.parameter_name	'column index'	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'column'	S
@ae815.22	*	Numeric_parameter	#7166	M
@ae1491	*	Property_parameter.parameter_name	'offset distance'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae436.5	*	Direction_element	#7150	M
@ae436.6	*	Direction_element	#7151	M
@ae436.7	*	Direction_element	#7159	M
@ae98.5		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.6		Brep_shape_aspect_representation	#5581	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.7		Brep_shape_aspect_representation	#5181	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.5		Brep_model_element	#7148	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.6		Brep_model_element	#7148	M

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.7		Brep_model_element	#7148	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.12		Shape_aspect	#7150	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.5	M
@ae1662.13		Shape_aspect	#7151	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.6)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.6	M
@ae1662.14		Shape_aspect	#7159	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436.7	M
@ae1662.15		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536.4	M
@ae1606.5	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Hole 5'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.5	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.5	M
@ae1145.7	*	Orientation	#5606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(140,50,0)	S
@ae136.5	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.7	M

Table 18 - Application elements for Rectangular_pattern (continued)

Id	V	Application elements	Value	Req
@ae665.5	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.16	*	Shape_aspect	#5607	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.5	M
@ae1536.5	*	Rectangular_pattern	#7120	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.5	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.7	M
@ae1553	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	(@ae1515,@ae1515.2)	S
@ae1554	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	<not_present>	M
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.14	M
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.15	M
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.16	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.17	M
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436.6	M
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.7	M
@ae1557.5	*	Replicate_base	#7122	M
@ae1558	*	Replicate_base to Replicate_base_select (as base_feature)	@ae1606.5	M
@ae1515.2	*	Rectangular_offset_pattern	#7156	M
@ae1523	*	Rectangular_offset_pattern to Numeric_parameter (as row_index)	@ae815.23	M
@ae1521	*	Rectangular_offset_pattern to Numeric_parameter (as column_index)	@ae815.21	M
@ae1522	*	Rectangular_offset_pattern to Numeric_parameter (as offset_distance)	@ae815.22	M
@ae1520	*	Rectangular_offset_pattern to Direction_element (as offset_direction)	@ae436.5	M
@ae815.23	*	Numeric_parameter	#7166	M
@ae1491	*	Property_parameter.parameter_name	'row index'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'row'	S

Table 18 - Application elements for Rectangular_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1662.17		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536.5	M
@ae1606.6	*	Round_hole	#5600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'Hole 6'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.6	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.6	M
@ae1145.8	*	Orientation	#5606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(140,90,0)	S
@ae136.6	*	Circular_closed_profile	#5613	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.8	M
@ae665.6	*	Linear_path	#5623	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.8	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.18	*	Shape_aspect	#5607	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1606.6	M
@ae1536.6	*	Rectangular_pattern	#7504	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.6	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.8	M
@ae1552	*	Rectangular_pattern to Rectangular_offset_pattern (as relocated_base_feature)	(@ae1515)	S
@ae1556	*	Rectangular_pattern to Rectangular_omit_pattern (as missing_base_feature)	(@ae1526,@ae1526.3)	S
@ae1547	*	Rectangular_pattern to Numeric_parameter (as rows)	@ae815.14	M
@ae1548	*	Rectangular_pattern to Numeric_parameter (as columns)	@ae815.15	M

Table 18 - Application elements for Rectangular_pattern (concluded)

Id	V	Application elements	Value	Req
@ae1549	*	Rectangular_pattern to Numeric_parameter (as row_spacing)	@ae815.16	M
@ae1550	*	Rectangular_pattern to Numeric_parameter (as column_spacing)	@ae815.17	M
@ae1545	*	Rectangular_pattern to Direction_element (as row_layout_direction)	@ae436.3	M
@ae1546	*	Rectangular_pattern to Direction_element (as column_layout_direction)	@ae436.4	M
@ae1557.6	*	Replicate_base	#7506	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.6	M
@ae1526.3	*	Rectangular_omit_pattern	#7518	M
@ae1530	*	Rectangular_omit_pattern to Numeric_parameter (as column_index)	@ae815.24	M
@ae1529	*	Rectangular_omit_pattern to Numeric_parameter (as row_index)	@ae815.25	M
@ae815.24	*	Numeric_parameter	#7527	M
@ae1491	*	Property_parameter.parameter_name	'column index '	S
@ae818	*	Numeric_parameter.parameter_value	4	S
@ae817	*	Numeric_parameter.parameter_units	'column'	S
@ae815.25	*	Numeric_parameter	#7528	M
@ae1491	*	Property_parameter.parameter_name	'row index'	S
@ae818	*	Numeric_parameter.parameter_value	1	S
@ae817	*	Numeric_parameter.parameter_units	'row'	S
@ae1662.19		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1536.6	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.18.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 18, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim42,
@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,	@aim67,	@aim74,
@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,	@aim217,	@aim243,
@aim244,	@aim245,	@aim256,	@aim295,	@aim296,	@aim301,	@aim326,	@aim331,
@aim333,	@aim334,	@aim335,	@aim336,	@aim345,	@aim346,	@aim348,	@aim364,
@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim393,
@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim403,	@aim415,
@aim432,	@aim433,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,
@aim465,	@aim470,	@aim471,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,
@aim499,	@aim535,	@aim536,	@aim565,	@aim566,	@aim572,	@aim573,	@aim576,
@aim577,	@aim579,	@aim583,	@aim586,	@aim589,	@aim590,	@aim592,	@aim622,
@aim623,	@aim624,	@aim635,	@aim636,	@aim637,	@aim639,	@aim640,	@aim641,
@aim642,	@aim644,	@aim649,	@aim651,	@aim734,	@aim735,	@aim747,	@aim748,
@aim760,	@aim762,	@aim763,	@aim764,	@aim763,	@aim764,	@aim768,	@aim769,
@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim840,	@aim938,	@aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 18 above apply.

Test case summary:

Note - The General_pattern test part is shown in the figure 16.

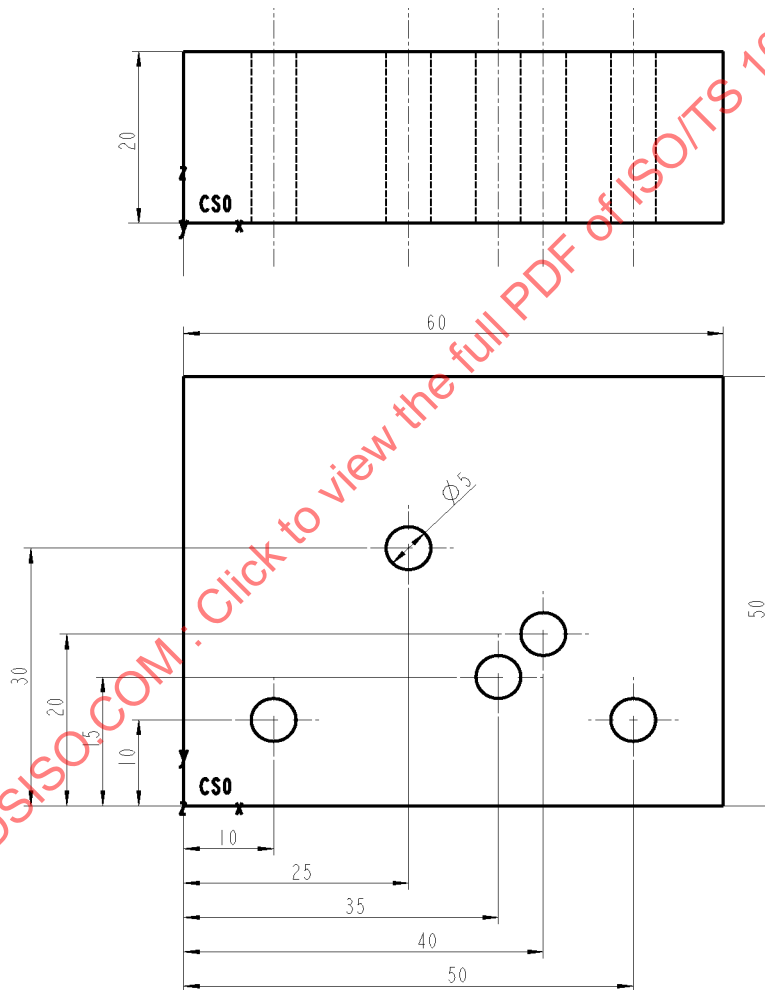


Figure 16 - General_pattern

6.19.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 19 - Application elements for General_pattern

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'General Pattern'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-654'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M

Table 19 - Application elements for General_pattern (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	50	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147		Orientation.location	(30,0,10)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	60	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Paul Auster'	S
@ae1322		Person.person_address	'3456 Dutch Blvd., Somewhere, NY 23445'	S
@ae1325		Person.person_phone_number	'(555)-234-4567'	S
@ae1323		Person.person_id	'123-PI-645'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'456-OI-345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Park Ave.,Somewhere, NY 23455'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S

Table 19 - Application elements for General_Pattern (continued)

Id	V	Application elements	Value	Req
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'60x50x20'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae570		General_outside_profile		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'Block'	S
@ae572		General_outside_profile to Profile (as boundary)	@ae1505	M
@ae1145.2		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147		Orientation.location	(30,0,10)	S
@ae1505		Rectangular_closed_profile		M
@ae1982		Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.2	M
@ae1509		Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.4	M
@ae1510		Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.5	M
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.5		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	60	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.6		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae570	M
@ae1606	*	Round_hole	#800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Hole 1'	S

Table 19 - Application elements for General_pattern (continued)

Id	V	Application elements	Value	Req
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.3	*	Orientation	#806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(10,10,0)	S
@ae1877	*	Through_bottom_condition	#836	M
@ae136	*	Circular_closed_profile		M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae815.7	*	Numeric_parameter	#824	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	5	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#823	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.2		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606	M
@ae576	*	General_pattern	#839	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.3	M
@ae578	*	General_pattern to Orientation (as feature_placement)	(@ae1145.4)	S
@ae1557	*	Replicate_base	#800	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606	M
@ae1145.4	*	Orientation	#848	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(25,30,0)	S
@ae1662.3		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M

Table 19 - Application elements for General_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae576	M
@ae1606.2	*	Round_hole	#800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Hole 2'	S
@ae1612	*	Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615	*	Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613	*	Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614	*	Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.5	*	Orientation	#806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(35,15,0)	S
@ae136.2	*	Circular_closed_profile	#824	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.5	M
@ae665.2	*	Linear_path	#823	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.4		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae576.2	*	General_pattern	#839	M
@ae1571	*	Replicate_feature to Replicate_base (as replicate_base_feature)	@ae1557.2	M
@ae1570	*	Replicate_feature to Orientation (as placement)	@ae1145.5	M
@ae579	*	General_pattern to Orientation (as feature_placement)	(@ae1145.6,@ae1145.7)	S
@ae1557.2	*	Replicate_base	#800	M
@ae1560	*	Replicate_base to Machining_feature (as base_feature)	@ae1606.2	M
@ae1145.6	*	Orientation	#848	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(40,20,0)	S
@ae1145.7	*	Orientation	#852	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S

Table 19 - Application elements for General_pattern (concluded)

Id	V	Application elements	Value	Req
@ae1147	*	Orientation.location	(50,10,0)	S
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae576.2	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.19.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 19, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3, @aim4, @aim6, @aim36, @aim37, @im39, @aim40, @aim41,
 @aim42, @aim55, @im57, @aim62, @aim63, @aim64, @aim66, @im67,
 @aim74, @aim75, @aim77, @aim201, @im203, @aim214, @aim215, @aim217,
 @aim242, @im243, @aim244, @aim245, @aim256, @aim258, @im295, @aim296,
 @aim301, @aim326, @aim331, @im333, @aim334, @aim345, @aim346, @aim348,
 @aim364, @aim365, @aim370, @aim371, @aim378, @im379, @aim384, @aim385,

@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,	@aim403,
@aim404,	@aim405,	@aim406,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,
@aim432,	@aim433,	@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,
@aim465,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,
@aim536,	@aim565,	@aim566,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,
@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,	@aim636,
@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,
@aim747,	@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,
@aim769,	@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim831,	@aim840,
@aim938,	@aim946						

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 19 above apply.

6.20 Closed_profile

Test case summary:

This abstract test case contains the Closed_profile and the relevant Subtypes, which are General_closed_profile, Ngon_profile, Rectangular_closed_profile and Circular_closed_profile.

Note - The Closed_profile test part is shown in the figure 17.

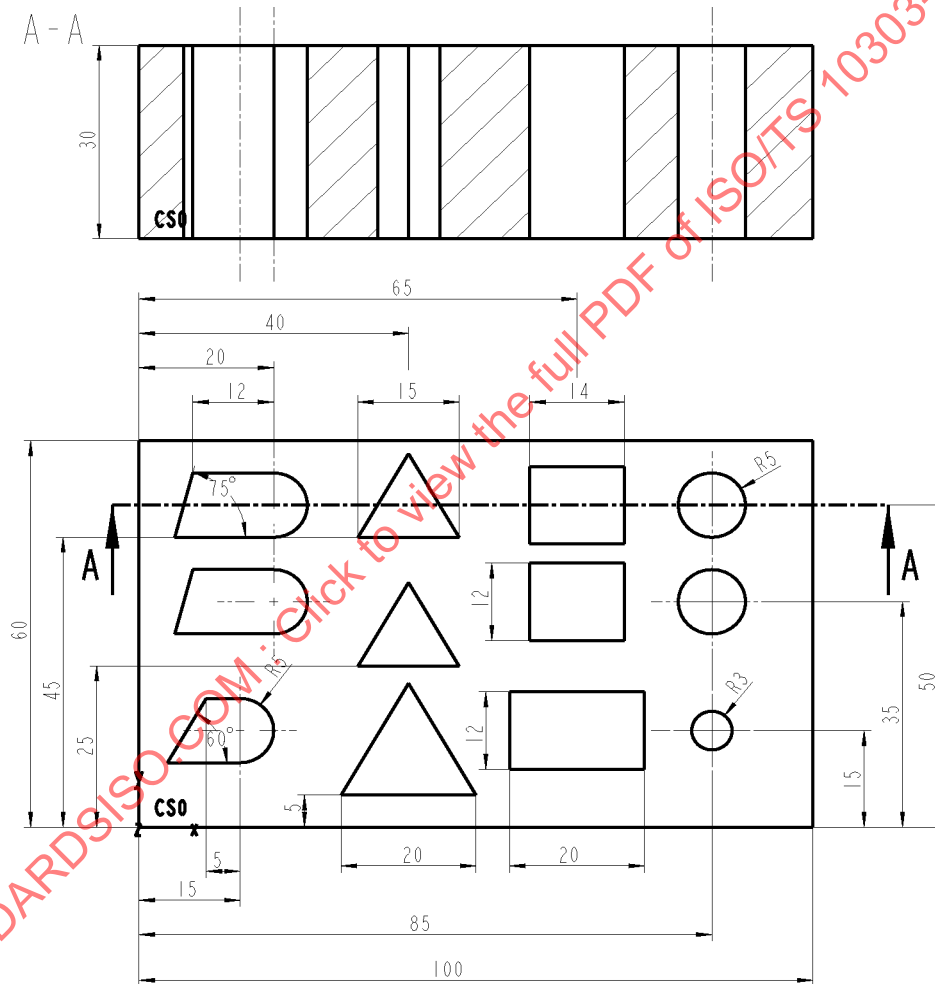


Figure 17 - Closed_profile

6.20.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 20 - Application elements for Closed_profile

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Closed Profile'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-654'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M

Table 20 - Application elements for Closed_pattern (continued)

Id	V	Application elements	Value	Req
@ae1658		Shape to Shape_aspect (as element)	((@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12,@ae1662.13,@ae1662.14)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	60	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147		Orientation.location	(30,0,10)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	100	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Paul Auster'	S
@ae1322		Person.person_address	'3456 Dutch Blvd., Somewhere, NY 23445'	S
@ae1325		Person.person_phone_number	'(555)-234-4567'	S
@ae1323		Person.person_id	'123-PI-645'	S
@ae1133		Organization		M

Table 20 - Application elements for Closed_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1135		Organization.organization_id	'456-OI-345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Park Ave.,Somewhere, NY 23455'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'100x60x30'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae88		Brep_model		M
@ae580	*	General_pocket	#2800	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'General Pocket 1'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561	M
@ae1145.2	*	Orientation	#2806	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(15,15,0)	S
@ae1881	*	Through_pocket_bottom_condition	#2838	M
@ae1398	*	Pocket_bottom_condition.start_or_end	'pocket start'	S
@ae665	*	Linear_path	#2827	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae561	*	General_closed_profile	#2813	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1303	M
@ae1303	*	Path_element	#2814	M
@ae98	*	Brep_shape_aspect_representation	#1631	M
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94	*	Brep_model_element	(#868, #888, #908, #924)	M
@ae96	*	Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662	*	Shape_aspect	#2814	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S

Table 20 - Application elements for Closed_pattern (continued)

Id	V	Application elements	Value	Req
@ae1667	*	Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.2		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580	M
@ae580.2	*	General_pocket	#2900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'General Pocket 2'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.3	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561.2	M
@ae1145.3	*	Orientation	#2906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,35,0)	S
@ae561.2	*	General_closed_profile	#2913	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.3	M
@ae1303.2	*	Path_element	#2914	M
@ae98.2		Brep_shape_aspect_representation	#1631	M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.2		Brep_model_element	(#948, #968, #988, #1004)	M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.3		Shape_aspect	#2907	M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae1303.2	M
@ae1662.4		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.2	M
@ae580.3	*	General_pocket	#3000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M

Table 20 - Application elements for Closed_Pattern (continued)

Id	V	Application elements	Value	Req
@ae743	*	Machining_feature.usage_name	'General Pocket 3'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.2	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae561.3	M
@ae1145.4	*	Orientation	#3006	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(20,50,0)	S
@ae665.2	*	Linear_path	#3027	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae561.3	*	General_closed_profile	#3013	M
@ae563	*	General_closed_profile to Path_element (as closed_profile_shape)	@ae1145.4	M
@ae665.3	*	Linear_path	#2913	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.3	M
@ae580.4	*	General_pocket	#2500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'General Pocket 4'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.4	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae808	M
@ae1145.5	*	Orientation	#2506	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(40,10,0)	S
@ae665.4	*	Linear_path	#2527	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae808	*	Ngon_profile	#2513	M
@ae813	*	Ngon_profile to Numeric_parameter (as circumscribed_diameter)	@ae1145.5	M
@ae812	*	Ngon_profile to Numeric_parameter (as number_of_sides)	@ae815.4	M

Table 20 - Application elements for Closed_pattern (continued)

Id	V	Application elements	Value	Req
@ae814	*	Ngon_profile to Numeric_parameter (as corner_radius)	@ae815.5	M
@ae815.4	*	Numeric_parameter	#2518	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	28.282	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.5	*	Numeric_parameter	#2517	M
@ae1491	*	Property_parameter.parameter_name	'number of sides'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'sides'	S
@ae815.6	*	Numeric_parameter	#2519	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.6		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.4	M
@ae580.5	*	General_pocket	#2600	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'General Pocket 5'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.5	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae808.2	M
@ae1145.6	*	Orientation	#2606	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(40,30,0)	S
@ae665.5	*	Linear_path	#2627	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae808.2	*	Ngon_profile	#2613	M
@ae813	*	Ngon_profile to Numeric_parameter (as circumscribed_diameter)	@ae1145.6	M
@ae812	*	Ngon_profile to Numeric_parameter (as number_of_sides)	@ae815.7	M
@ae814	*	Ngon_profile to Numeric_parameter (as corner_radius)	@ae815.8	M
@ae815.7	*	Numeric_parameter	#2618	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S

Table 20 - Application elements for Closed_Pattern (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	21.2132	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.8	*	Numeric_parameter	#2617	M
@ae1491	*	Property_parameter.parameter_name	'number of sides'	S
@ae818	*	Numeric_parameter.parameter_value	3	S
@ae817	*	Numeric_parameter.parameter_units	'sides'	S
@ae815.9	*	Numeric_parameter	#2619	M
@ae1491	*	Property_parameter.parameter_name	'corner radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.7		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.5	M
@ae580.6	*	General_pocket	#2700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'General Pocket 6'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.6	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae808.3	M
@ae1145.7	*	Orientation	#2706	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(40,50,0)	S
@ae665.6	*	Linear_path	#2727	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae808.3	*	Ngon_profile	#2713	M
@ae813	*	Ngon_profile to Numeric_parameter (as circumscribed_diameter)	@ae1145.7	M
@ae812	*	Ngon_profile to Numeric_parameter (as number_of_sides)	@ae815.7	M
@ae814	*	Ngon_profile to Numeric_parameter (as corner_radius)	@ae815.8	M
@ae1662.8		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.6	M

Table 20 - Application elements for Closed_pattern (continued)

Id	V	Application elements	Value	Req
@ae580.7	*	General_pocket	#2200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743	*	Machining_feature.usage_name	'General Pocket 7'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.7	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae1505	M
@ae1145.8	*	Orientation	#2206	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(65,15,0)	S
@ae665.7	*	Linear_path	#2227	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.8	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1505	*	Rectangular_closed_profile	#2213	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.8	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.10	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.11	M
@ae815.10	*	Numeric_parameter	#2219	M
@ae1491	*	Property_parameter.parameter_name	'corner radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter	#2218	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	12	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.12	*	Numeric_parameter	#2217	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.9		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.7	M
@ae580.8	*	General_pocket	#2300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.9	M
@ae743	*	Machining_feature.usage_name	'General Pocket 8'	S

Table 20 - Application elements for Closed_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.8	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae1505.2	M
@ae1145.9	*	Orientation	#2306	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(65,35,0)	S
@ae665.8	*	Linear_path	#2327	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.9	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1505.2	*	Rectangular_closed_profile	#2213	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.9	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.13	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.14	M
@ae815.13	*	Numeric_parameter	#2319	M
@ae1491	*	Property_parameter.parameter_name	'corner radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.14	*	Numeric_parameter	#2318	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	12	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.15	*	Numeric_parameter	#2317	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	14	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.10		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.8	M
@ae580.9	*	General_pocket	#2400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743	*	Machining_feature.usage_name	'Geneal Pocket 9'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.9	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M

Table 20 - Application elements for Closed_pattern (continued)

Id	V	Application elements	Value	Req
@ae582	*	General_pocket to Profile (as boundary)	@ae1505.3	M
@ae1145.10	*	Orientation	#2406	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(65,50,0)	S
@ae665.9	*	Linear_path	#2527	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.10	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae1505.3	*	Rectangular_closed_profile	#2513	M
@ae1982	*	Rectangular_closed_profile to Numeric_parameter (as corner_radius)	@ae1145.10	M
@ae1509	*	Rectangular_closed_profile to Numeric_parameter (as profile_width)	@ae815.13	M
@ae1510	*	Rectangular_closed_profile to Numeric_parameter (as profile_length)	@ae815.14	M
@ae1662.11		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.9	M
@ae580.10	*	General_pocket	#1900	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.11	M
@ae743	*	Machining_feature.usage_name	'General Pocket 10'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.10	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae136	M
@ae1145.11	*	Orientation	#1906	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(85,15,0)	S
@ae665.10	*	Linear_path	#1925	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.11	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae136	*	Circular_closed_profile	#1913	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.11	M
@ae815.16	*	Numeric_parameter	#1917	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	6	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.12	*	Shape_aspect	#1907	M

Table 20 - Application elements for Closed_Pattern (continued)

Id	V	Application elements	Value	Req
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae580.10	M
@ae580.11	*	General_pocket	#2000	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.12	M
@ae743	*	Machining_feature.usage_name	'General Pocket 11'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.11	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae136.2	M
@ae1145.12	*	Orientation	#2006	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(85,35,0)	S
@ae665.11	*	Linear_path	#2025	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.12	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae136.2	*	Circular_closed_profile	#2013	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.12	M
@ae815.17	*	Numeric_parameter	#2017	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662.13	*	Shape_aspect	#2007	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae580.11	M
@ae580.12	*	General_pocket	#2100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.13	M
@ae743	*	Machining_feature.usage_name	'General Pocket 12'	S
@ae1393	*	Pocket to Pocket_bottom_condition (as bottom_condition)	@ae1881	M
@ae1390	*	Pocket to Linear_path (as pocket_depth)	@ae665.12	M
@ae1391	*	Pocket to Angle_taper (as change_in_boundary)	<not_present>	M
@ae582	*	General_pocket to Profile (as boundary)	@ae136.3	M
@ae1145.13	*	Orientation	#2106	M
@ae1146	*	Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147	*	Orientation.location	(85,50,0)	S

Table 20 - Application elements for Closed_pattern (concluded)

Id	V	Application elements	Value	Req
@ae665.12	*	Linear_path	#2127	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.13	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815.3	M
@ae136.3	*	Circular_closed_profile	#2121	M
@ae138	*	Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.13	M
@ae1662.14		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae580.12	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.20.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 20, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3, @aim4, @aim6, @aim36, @aim37, @aim39, @aim40, @aim41,
@aim42, @aim55, @aim57, @aim62, @aim63, @aim64, @aim66, @aim67,

@aim74, @aim75, @aim77, @aim201, @aim203, @aim214, @aim215, @aim217,
 @aim243, @aim244, @aim245, @aim252, @aim253, @aim256, @aim295, @aim296,
 @aim301, @aim326, @aim326, @aim331, @aim333, @aim334, @aim335, @aim336,
 @aim345, @aim346, @aim348, @aim364, @aim365, @aim370, @aim371, @aim378,
 @aim379, @aim384, @aim385, @aim393, @aim394, @aim396, @aim397, @aim399,
 @aim400, @aim403, @aim404, @aim415, @aim426, @aim427, @aim429, @aim430,
 @aim441, @aim442, @aim444, @aim455, @aim456, @aim459, @aim474, @aim475,
 @aim476, @aim489, @aim491, @aim494, @aim496, @aim499, @aim535, @aim536,
 @aim565, @aim566, @aim569, @aim571, @aim576, @aim577, @aim579, @aim583,
 @aim586, @aim589, @aim590, @aim592, @aim622, @aim623, @aim624, @aim627,
 @aim628, @aim635, @aim636, @aim637, @aim639, @aim640, @aim641, @aim642,
 @aim644, @aim649, @aim651, @aim730, @aim731, @aim747, @aim748, @aim750,
 @aim760, @aim762, @aim763, @aim763, @aim764, @aim768, @aim769, @aim773,
 @aim775, @aim776, @aim777, @aim778, @aim831, @aim840, @aim938, @aim943,
 @aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 20 above apply.

Test case summary:

Note - The Path test part is shown in the figure 18.

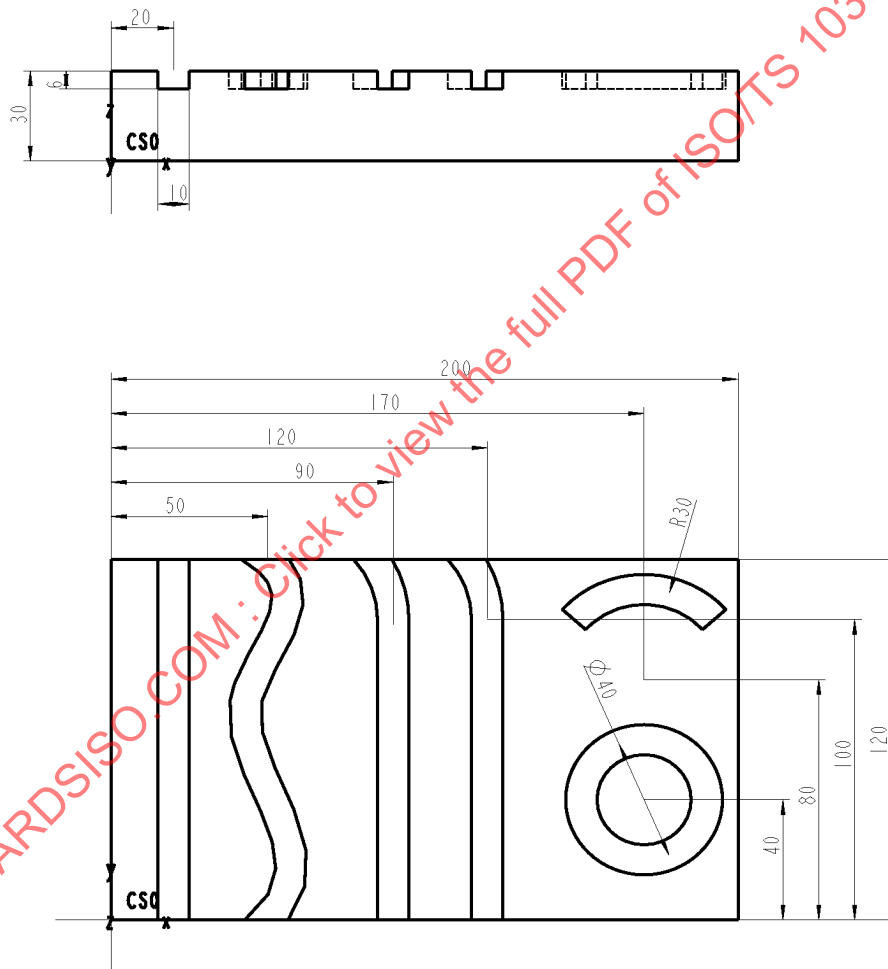


Figure 18 - Path

6.21.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 21 - Application elements for Path

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Path'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-654'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae815	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae815.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae815.3	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'length'	S
@ae818		Numeric_parameter.parameter_value	120	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1145		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,1,0)	S
@ae1147		Orientation.location	(30,0,10)	S
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S
@ae818		Numeric_parameter.parameter_value	200	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'height'	S
@ae818		Numeric_parameter.parameter_value	30	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Paul Auster'	S
@ae1322		Person.person_address	'3456 Dutch Blvd., Somewhere, NY 23445'	S
@ae1325		Person.person_phone_number	'(555)-234-4567'	S
@ae1323		Person.person_id	'123-PI-645'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'456-OI-345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Park Ave., Somewhere, NY 23455'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'200x120x30'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1737	*	Slot	#2100	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743	*	Machining_feature.usage_name	'Slot 1'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae665	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.2	*	Orientation	#2106	M
@ae1146	*	Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(20,0,24)	S
@ae1126	*	Open_slot_end_type	#2162	M
@ae1752	*	Slot_end_type.first_or_second	'second'	S
@ae1126.2	*	Open_slot_end_type	#2165	M
@ae1751	*	Slot_end_type.first_or_second	'first'	S
@ae815.4	*	Numeric_parameter	#2110	M
@ae1491	*	Property_parameter.parameter_name	'depth'	S
@ae818	*	Numeric_parameter.parameter_value	6	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae665	*	Linear_path	#2142	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.2	M
@ae667	*	Linear_path to Numeric_parameter (as distance)	@ae815	M
@ae1790	*	Square_u_profile	#2122	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.2	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae815.5	*	Numeric_parameter	#2127	M
@ae1491	*	Property_parameter.parameter_name	'angle'	S

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae815.6	*	Numeric_parameter	#2129	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	0	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.7	*	Numeric_parameter	#2126	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737	M
@ae1737.2	*	Slot	#2200	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743	*	Machining_feature.usage_name	'Slot 2'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae573	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.2	M
@ae1145.3	*	Orientation	#2206	M
@ae1146	*	Orientation.axis	(-1,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(50,0,24)	S
@ae573	*	General_path	#	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.3	M
@ae575	*	General_path to Path_element (as sweep_path)	@ae1303	M
@ae1303	*	Path_element	#2242	M
@ae1790.2	*	Square_u_profile	#2222	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.3	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae98	*	Brep_shape_aspect_representation	#1834	M

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae88	*	Brep_model	#1833	M
@ae94	*	Brep_model_element	#1604	M
@ae96	*	Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.2	*	Shape_aspect	#2250	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98)	S
@ae1667	*	Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94)	S
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1303	M
@ae1662.3	*	Shape_aspect	#2250	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1737.2	M
@ae1737.3	*	Slot	#2300	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743	*	Machining_feature.usage_name	'Slot 3'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae573.2	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.3	M
@ae1145.4	*	Orientation	#2306	M
@ae1146	*	Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(90,0,26)	S
@ae573.2	*	General_path	#2342	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.4	M
@ae575	*	General_path to Path_element (as sweep_path)	@ae1303.2	M
@ae1303.2	*	Path_element	#2350	M
@ae1790.3	*	Square_u_profile	2322	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.4	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae98.2	*	Brep_shape_aspect_representation	#1334	M

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae100	*	Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.2	*	Brep_model_element	(#1191, #1198)	M
@ae96	*	Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.4	*	Shape_aspect	#2350	M
@ae1670	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.2)	S
@ae1667	*	Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.2)	S
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1303.2	M
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.3	M
@ae1737.4	*	Slot	#2400	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743	*	Machining_feature.usage_name	'Slot 4'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae573.3	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.4	M
@ae1145.5	*	Orientation	#2406	M
@ae1146	*	Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(120,0,26)	S
@ae573.3	*	General_path	#2442	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.5	M
@ae575	*	General_path to Path_element (as sweep_path)	@ae1303.2	M
@ae1790.4	*	Square_u_profile	#2422	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.5	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae1662.6	*	Shape_aspect	#2450	M
@ae1669	*	Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae1666	*	Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673	*	Shape_aspect to Shape_element (as element)	@ae1737.4	M
@ae1737.5	*	Slot	#2500	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743	*	Machining_feature.usage_name	'Slot 5'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae1126,@ae1126.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae193	M
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.5	M
@ae1145.6	*	Orientation	#2506	M
@ae1146	*	Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(170,40,26)	S
@ae193	*	Complete_circular_path	#2542	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.6	M
@ae161	*	Circular_path to Numeric_parameter (as radius)	@ae815.8	M
@ae815.8	*	Numeric_parameter	#2546	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	20	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1790.5	*	Square_u_profile	#2600	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.6	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae1662.7		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.5	M
@ae1737.6	*	Slot	#2700	M
@ae744	*	Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743	*	Machining_feature.usage_name	'Slot 6'	S
@ae1745	*	Slot to Slot_end_type (as end_conditions)	(@ae545,@ae545.2)	S
@ae1742	*	Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744	*	Slot to Path (as course_of_travel)	@ae1280	M

Table 21 - Application elements for Path (continued)

Id	V	Application elements	Value	Req
@ae1743	*	Slot to Open_profile (as swept_shape)	@ae1790.6	M
@ae1145.7	*	Orientation	#2706	M
@ae1146	*	Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147	*	Orientation.location	(170,80,26)	S
@ae545		Flat_slot_end_type	#2665	M
@ae1752		Slot_end_type.first_or_second	'second'	S
@ae549		Flat_slot_end_type to Numeric_parameter (as second_radius)	@ae815.9	M
@ae548		Flat_slot_end_type to Numeric_parameter (as first_radius)	@ae815.9	M
@ae815.9		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae545.2		Flat_slot_end_type	#2662	M
@ae1751		Slot_end_type.first_or_second	'first'	S
@ae549		Flat_slot_end_type to Numeric_parameter (as second_radius)	@ae815.9	M
@ae548		Flat_slot_end_type to Numeric_parameter (as first_radius)	@ae815.9	M
@ae1280	*	Partial_circular_path	#2642	M
@ae1299	*	Path to Orientation (as placement)	@ae1145.7	M
@ae161	*	Circular_path to Numeric_parameter (as radius)	@ae815.10	M
@ae1282	*	Partial_circular_path to Numeric_parameter (as sweep_angle)	@ae815.11	M
@ae815.10	*	Numeric_parameter	#2630	M
@ae1491	*	Property_parameter.parameter_name	'radius'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae815.11	*	Numeric_parameter	#2633	M
@ae1491	*	Property_parameter.parameter_name	'sweep angle'	S
@ae818	*	Numeric_parameter.parameter_value	90	S
@ae817	*	Numeric_parameter.parameter_units	'Degree'	S
@ae1790.6	*	Square_u_profile	#2622	M
@ae1421	*	Profile to Orientation (as placement)	@ae1145.7	M
@ae1796	*	Square_u_profile to Numeric_parameter (as first_angle)	@ae815.5	M
@ae1797	*	Square_u_profile to Numeric_parameter (as first_radius)	@ae815.6	M
@ae1798	*	Square_u_profile to Numeric_parameter (as second_angle)	@ae815.5	M
@ae1799	*	Square_u_profile to Numeric_parameter (as second_radius)	@ae815.6	M

Table 21 - Application elements for Path (concluded)

Id	V	Application elements	Value	Req
@ae1800	*	Square_u_profile to Numeric_parameter (as width)	@ae815.7	M
@ae1662.8		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.6	M

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.21.2 PostprocessorTest purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other16, other24, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 21, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3, @aim4, @aim6, @aim36, @aim37, @aim39, @aim40, @aim41,
 @aim42, @aim55, @aim57, @aim62, @aim63, @aim64, @aim66, @aim67,
 @aim74, @aim75, @aim77, @aim93, @aim94, @aim101, @aim107, @aim201,
 @aim203, @aim214, @aim215, @aim217, @aim243, @aim256, @aim295, @aim296,
 @aim301, @aim326, @aim331, @aim333, @aim334, @aim335, @aim336, @aim345,
 @aim346, @aim348, @aim364, @aim365, @aim370, @aim371, @aim378, @aim379,

@aim384,	@aim385,	@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,
@aim402,	@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,
@aim441,	@aim442,	@aim444,	@aim455,	@aim456,	@aim459,	@aim474,	@aim489,
@aim491,	@aim494,	@aim496,	@aim499,	@aim535,	@aim536,	@aim565,	@aim566,
@aim569,	@aim570,	@aim571,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,
@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,	@aim636,
@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,
@aim747,	@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,
@aim769,	@aim773,	@aim775,	@aim776,	@aim777,	@aim778,	@aim825,	@aim826,
@aim827,	@aim831,	@aim835,	@aim836,	@aim840,	@aim849,	@aim938,	@aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 21 above apply.

6.22 Size_tolerance

Test case summary:

This abstract test case contains the Dimensional_tolerance and Size_tolerance and also the relevant Subtypes, which are Radial_dimension_tolerance, Diameter_dimension_tolerance, Curved_dimension_tolerance and Angular_size_dimension_tolerance.

Note - The Size_tolerance test part is shown in the figure 19.

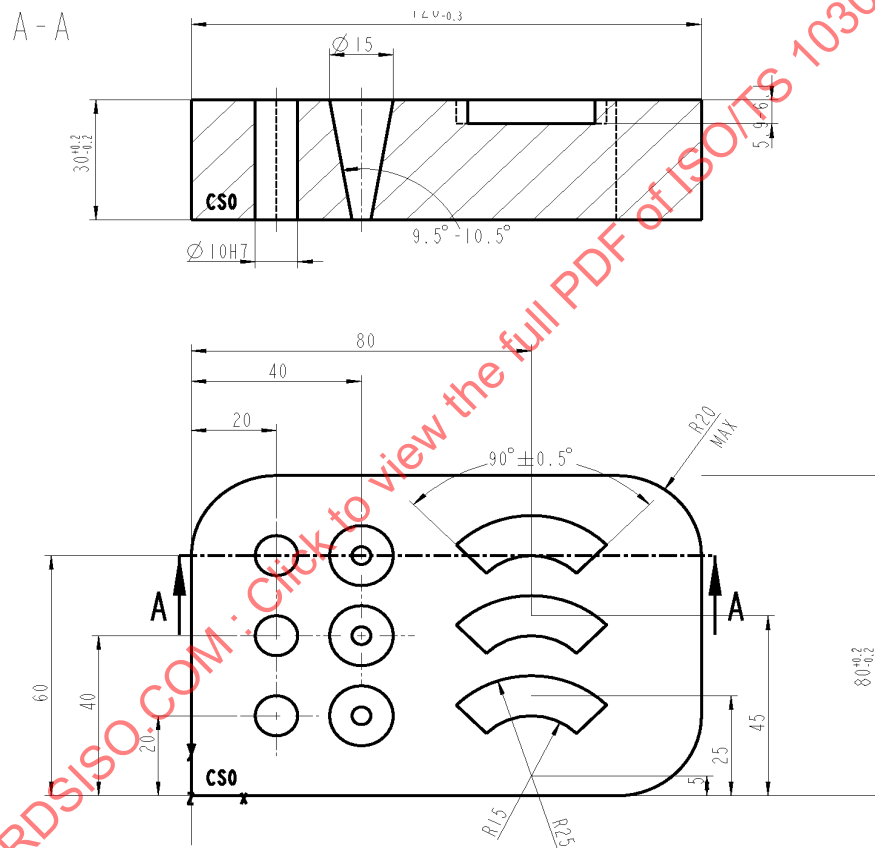


Figure 19 - Size_tolerance

6.22.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 22 - Application elements for Size_tolerance

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Size tolerance'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'123-PI-654'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8,@ae1662.9,@ae1662.10,@ae1662.11,@ae1662.12,@ae1662.13,@ae1662.14,@ae1662.15,@ae1662.16,@ae1662.17,@ae1662.18,@ae1662.19,@ae1662.20,@ae1662.21,@ae1662.22,@ae1662.23)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M
@ae1653		Shape to Brep_shape_representation (as Brep_form)	<not_present>	M
@ae65		Block_base_shape		M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae654		Implicit_base_shape_representation to Numeric_parameter (as base_shape_length)	@ae1108	M
@ae655		Implicit_base_shape_representation to Orientation (as placement)	@ae1145	M
@ae68		Block_base_shape to Numeric_parameter (as width)	@ae1108.2	M
@ae69		Block_base_shape to Numeric_parameter (as height)	@ae1108.3	M
@ae1145		Orientation		M
@ae1146		Orientation.axis	(-1,0,0,0,0,1,0,1,0)	S
@ae1147		Orientation.location	(60,0,15)	S
@ae1329		Person_in_organization		M
@ae1334		Person_in_organization to Person (as employee)	@ae1321	M
@ae1333		Person_in_organization to Organization (as company)	@ae1133	M
@ae1332		Person_in_organization.role	'Worker'	S
@ae1321		Person		M
@ae1324		Person.person_name	'Paul Auster'	S
@ae1322		Person.person_address	'3456 Dutch Blvd., Somewhere, NY 23445'	S
@ae1325		Person.person_phone_number	'(555)-234-4567'	S
@ae1323		Person.person_id	'123-PI-645'	S
@ae1133		Organization		M
@ae1135		Organization.organization_id	'456-OI-345'	S
@ae1136		Organization.organization_name	'Makeit Inc.'	S
@ae1134		Organization.organization_address	'2345 Park Ave.,Somewhere, NY 23455'	S
@ae762		Material		M
@ae765		Material.material_id	'St 37-2'	S
@ae764		Material.material_description	'Steel bar stock'	S
@ae767		Material.stock_size	'150x120x30'	S
@ae771		Material to Specification (as material_specification)	<not_present>	M
@ae768		Material to Material_property (as material_characteristic)	<not_present>	M
@ae1127		Ordered_part		M
@ae1128		Ordered_part.quantity_required	1	S
@ae1129		Ordered_part.quantity_unit_of_measure	'each'	S
@ae1108	*	Numeric_parameter_with_tolerance	#57	M
@ae1491	*	Property_parameter.parameter_name	'length'	S
@ae818	*	Numeric_parameter.parameter_value	80	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1373	*	Plus_minus_value	#57	M
@ae1376	*	Plus_minus_value.upper_limit	0.2	S
@ae1374	*	Plus_minus_value.lower_limit	-0.2	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae1108.2	*	Numeric_parameter_with_tolerance	#52	M
@ae1491	*	Property_parameter.parameter_name	'width'	S
@ae818	*	Numeric_parameter.parameter_value	120	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373.2	M
@ae1373.2	*	Plus_minus_value	#52	M
@ae1376	*	Plus_minus_value.upper_limit	0.3	S
@ae1374	*	Plus_minus_value.lower_limit	-0.3	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae1108.3	*	Numeric_parameter_with_tolerance	#47	M
@ae1491	*	Property_parameter.parameter_name	'height'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373	M
@ae1606		Round_hole	#1700	M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.2	M
@ae743		Machining_feature.usage_name	'Hole 1'	S
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665	M
@ae1145.2		Orientation	#1778	M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(20,20,0)	S
@ae1877		Through_bottom_condition	#1817	M
@ae136		Circular_closed_profile	#1785	M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.2	M
@ae1108.4	*	Numeric_parameter_with_tolerance	#1794	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373.3	M
@ae1373.3	*	Plus_minus_value	#11794	M
@ae1376	*	Plus_minus_value.upper_limit	0.2	S
@ae1374	*	Plus_minus_value.lower_limit	-0.2	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae665		Linear_path	#1800	M
@ae1299		Path to Orientation (as placement)	@ae1145.2	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.5	M
@ae1108.5	*	Numeric_parameter_with_tolerance	#1805	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1111	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1882	M
@ae1882	*	Tolerance_limit	#2288	M
@ae1883	*	Tolerance_limit.limit_qualifier	'MIN'	S
@ae1662		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606	M
@ae407	*	Diameter_dimension_tolerance	#1900	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897	M
@ae430	*	Dimensional_tolerance.dimension_value	10	S
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'diameter'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606	M
@ae1897	*	Tolerance_value	#1901	M
@ae1901	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae487	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae487	*	Externally_defined_tolerance_value	#2007	M
@ae489	*	Externally_defined_tolerance_value.tolerance_value	10	S
@ae490	*	Externally_defined_tolerance_value to Specification (as documentation)	@ae1756	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1756	*	Specification	#2008	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ISO 286-2:1998'	S
@ae1759	*	Specification.specification_description	'limits and fits tables'	S
@ae1758	*	Specification.specification_class	'H7'	S
@ae1606.2		Round_hole	#2200	M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.3	M
@ae743		Machining_feature.usage_name	'Hole 2'	S
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.2	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.2	M
@ae1145.3		Orientation	#2278	M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(20,40,0)	S
@ae136.2		Circular_closed_profile	#2285	M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.3	M
@ae1108.6	*	Numeric_parameter_with_tolerance	#2294	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373.4	M
@ae1373.4	*	Plus_minus_value	#1806	M
@ae1376	*	Plus_minus_value.upper_limit	0.2	S
@ae1374	*	Plus_minus_value.lower_limit	-0.2	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae665.2		Linear_path	#2300	M
@ae1299		Path to Orientation (as placement)	@ae1145.3	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.7	M
@ae1108.7	*	Numeric_parameter_with_tolerance	#2305	M
@ae1491	*	Property_parameter.parameter_name	'distance '	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1111	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1882.2	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1882.2	*	Tolerance_limit	#2288	M
@ae1883	*	Tolerance_limit.limit_qualifier	'MIN'	S
@ae1662.2		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.2	M
@ae407.2	*	Diameter_dimension_tolerance	#2294	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.2	M
@ae430	*	Dimensional_tolerance.dimension_value	10	S
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'diameter'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.2	M
@ae1897.2	*	Tolerance_value	#2288	M
@ae1901	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae487.2	M
@ae1899	*	Tolerance_value.envelope	.F.	S
@ae487.2	*	Externally_defined_tolerance_value	#2007	M
@ae489	*	Externally_defined_tolerance_value.tolerance_value	10	S
@ae490	*	Externally_defined_tolerance_value to Specification (as documentation)	@ae1756.2	M
@ae1756.2	*	Specification	#2008	M
@ae1761	*	Specification to Specification_usage_constraint (as constraint)	<not_present>	M
@ae1760	*	Specification.specification_id	'ISO 286-2:1998'	S
@ae1759	*	Specification.specification_description	'tables of limits and fits'	S
@ae1758	*	Specification.specification_class	'H7'	S
@ae1606.3		Round_hole	#3800	M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.4	M
@ae743		Machining_feature.usage_name	'Hole 3'	S
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	<not_present>	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.3	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.3	M
@ae1145.4		Orientation	#3822	M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1147		Orientation.location	(20,60,0)	S
@ae136.3		Circular_closed_profile	#3839	M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.4	M
@ae1108.8	*	Numeric_parameter_with_tolerance	#3848	M
@ae1491	*	Property_parameter.parameter_name	'diameter'	S
@ae818	*	Numeric_parameter.parameter_value	10	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1110	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1373.4	M
@ae665.3		Linear_path	#3854	M
@ae1299		Path to Orientation (as placement)	@ae1145.4	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.9	M
@ae1108.9	*	Numeric_parameter_with_tolerance	#3863	M
@ae1491	*	Property_parameter.parameter_name	'distance'	S
@ae818	*	Numeric_parameter.parameter_value	30	S
@ae817	*	Numeric_parameter.parameter_units	'mm'	S
@ae1111	*	Numeric_parameter_with_tolerance to Numeric_parameter_tolerance_select (as implicit_tolerance)	@ae1882.2	M
@ae1662.3		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.3	M
@ae407.3	*	Diameter_dimension_tolerance	#2100	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.3	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430	*	Dimensional_tolerance.dimension_value	10	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'diameter'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.3	M
@ae1897.3	*	Tolerance_value	#2288	M
@ae1901	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae487.2	M
@ae1899	*	Tolerance_value.envelope	.F.	S
@ae1606.4		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.5	M
@ae743		Machining_feature.usage_name	'Hole 4'	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.4	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.4	M
@ae1145.5		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(40,20,0)	S
@ae6		Angle_taper		M
@ae8		Angle_taper to Numeric_parameter (as angle)	@ae815	M
@ae815		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'taper angle'	S
@ae818		Numeric_parameter.parameter_value	10	S
@ae817		Numeric_parameter.parameter_units	'Degree'	S
@ae136.4		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.5	M
@ae815.2		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'diameter'	S
@ae818		Numeric_parameter.parameter_value	4.9	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae665.4		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.5	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.7	M
@ae1662.4		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.4	M
@ae28	*	Angular_size_dimension_tolerance	#2500	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.4	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'Degree'	S
@ae430	*	Dimensional_tolerance.dimension_value	350	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'taper angle'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.4	M
@ae30	*	Angular_size_dimension_tolerance.major_angle	.T.	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae29	*	Angular_size_dimension_tolerance. full_or_half	.F.	S
@ae1897.4	*	Tolerance_value	#2288	M
@ae1907	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1890	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae1890	*	Tolerance_range	#2501	M
@ae1893	*	Tolerance_range.upper_range	350.5	S
@ae1891	*	Tolerance_range.lower_range	349.5	S
@ae1892	*	Tolerance_range.significant_digits	2	S
@ae1606.5		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.6	M
@ae743		Machining_feature.usage_name	'Hole 5'	S
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.5	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.5	M
@ae1145.6		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(40,40,0)	S
@ae136.5		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.6	M
@ae665.5		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.6	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.7	M
@ae1662.5		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.5	M
@ae28.2	*	Angular_size_dimension_tolerance	#2600	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.5	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'Degree'	S
@ae430	*	Dimensional_tolerance.dimension_value	20	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'angle taper'	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.5	M
@ae30	*	Angular_size_dimension_tolerance.major_angle	.F.	S
@ae29	*	Angular_size_dimension_tolerance.full_or_half	.T.	S
@ae1897.5	*	Tolerance_value	#2288	M
@ae1907	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1890.2	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae1890.2	*	Tolerance_range	#2501	M
@ae1893	*	Tolerance_range.upper_range	21	S
@ae1891	*	Tolerance_range.lower_range	19	S
@ae1892	*	Tolerance_range.significant_digits	2	S
@ae1606.6		Round_hole		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.7	M
@ae743		Machining_feature.usage_name	'Hole 6'	S
@ae1612		Round_hole to Through_bottom_condition (as bottom_condition)	@ae1877	M
@ae1615		Round_hole to Angle_taper (as change_in_diameter)	@ae6	M
@ae1613		Round_hole to Circular_closed_profile (as diameter)	@ae136.6	M
@ae1614		Round_hole to Linear_path (as hole_depth)	@ae665.6	M
@ae1145.7		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(40,60,0)	S
@ae136.6		Circular_closed_profile		M
@ae138		Circular_closed_profile to Numeric_parameter (as diameter)	@ae1145.7	M
@ae665.6		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.7	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108.7	M
@ae1662.6		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1606.6	M
@ae28.3	*	Angular_size_dimension_tolerance	#2800	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.6	M
@ae430	*	Dimensional_tolerance.dimension_value	20	S
@ae433	*	Dimensional_tolerance.unit_of_measure	'Degree'	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae429	*	Dimensional_tolerance.dimension_description	'angle taper'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.6	M
@ae30	*	Angular_size_dimension_tolerance.major_angle	.F.	S
@ae29	*	Angular_size_dimension_tolerance.full_or_half	.T.	S
@ae1897.6	*	Tolerance_value	#2288	M
@ae1907	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1890.2	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae1500	*	Radial_dimension_tolerance	#2801	M
@ae434	*	Dimensional_tolerance to Tolerance_value (as limit)	<not_present>	M
@ae430	*	Dimensional_tolerance.dimension_value	4.9	S
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'diameter'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1606.6	M
@ae1737		Slot		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.8	M
@ae743		Machining_feature.usage_name	'Slot 1'	S
@ae1745		Slot to Slot_end_type (as end_conditions)	(@ae545,@ae545.2)	S
@ae1742		Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744		Slot to Path (as course_of_travel)	@ae1280	M
@ae1743		Slot to Open_profile (as swept_shape)	@ae1790	M
@ae1145.8		Orientation		M
@ae1146		Orientation.axis	(-1,-1,0,0,1,-1,1,0)	S
@ae1147		Orientation.location	(94.142,19.142,24)	S
@ae545		Flat_slot_end_type		M
@ae1751		Slot_end_type.first_or_second	'first'	S
@ae549		Flat_slot_end_type to Numeric_parameter (as second_radius)	@ae815.3	M
@ae548		Flat_slot_end_type to Numeric_parameter (as first_radius)	@ae815.3	M
@ae815.3		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae545.2		Flat_slot_end_type		M
@ae1752		Slot_end_type.first_or_second	'second'	S
@ae549		Flat_slot_end_type to Numeric_parameter (as second_radius)	@ae815.3	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae548		Flat_slot_end_type to Numeric_parameter (as first_radius)	@ae815.3	M
@ae815.4		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'depth'	S
@ae818		Numeric_parameter.parameter_value	6	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1280		Partial_circular_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.9	M
@ae161		Circular_path to Numeric_parameter (as radius)	@ae815.5	M
@ae1282		Partial_circular_path to Numeric_parameter (as sweep_angle)	@ae815.6	M
@ae1145.9		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(80,5,24)	S
@ae815.5		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.6		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'sweep_angle'	S
@ae818		Numeric_parameter.parameter_value	90	S
@ae817		Numeric_parameter.parameter_units	'Degree'	S
@ae1790		Square_u_profile		M
@ae1421		Profile to Orientation (as placement)	@ae1145.8	M
@ae1796		Square_u_profile to Numeric_parameter (as first_angle)	@ae815.7	M
@ae1797		Square_u_profile to Numeric_parameter (as first_radius)	@ae815.8	M
@ae1798		Square_u_profile to Numeric_parameter (as second_angle)	@ae815.7	M
@ae1799		Square_u_profile to Numeric_parameter (as second_radius)	@ae815.8	M
@ae1800		Square_u_profile to Numeric_parameter (as width)	@ae815.9	M
@ae815.7		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'angle'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'Degree'	S
@ae815.8		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	0	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.9		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'width'	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae818		Numeric_parameter.parameter_value	10	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662.7		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737	M
@ae255	*	Curved_dimension_tolerance	#2900	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.7	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430	*	Dimensional_tolerance.dimension_value	31.415	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'Curve length'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1737	M
@ae1897.7	*	Tolerance_value	#2288	M
@ae1903	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1373.5	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae1373.5	*	Plus_minus_value	#1806	M
@ae1376	*	Plus_minus_value.upper_limit	0.1	S
@ae1374	*	Plus_minus_value.lower_limit	-0.1	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae1737.2		Slot		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.10	M
@ae743		Machining_feature.usage_name	'Slot 2'	S
@ae1745		Slot to Slot_end_type (as end_conditions)	(@ae545,@ae545.2)	S
@ae1742		Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744		Slot to Path (as course_of_travel)	@ae1280.2	M
@ae1743		Slot to Open_profile (as swept_shape)	@ae1790.2	M
@ae1145.10		Orientation		M
@ae1146		Orientation.axis	(-1,-1,0,0,0,1,-1,1,0)	S
@ae1147		Orientation.location	(94.142,39.142,24)	S
@ae1280.2		Partial_circular_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.11	M
@ae161		Circular_path to Numeric_parameter (as radius)	@ae815.5	M
@ae1282		Partial_circular_path to Numeric_parameter (as sweep_angle)	@ae815.6	M
@ae1790.2		Square_u_profile		M
@ae1421		Profile to Orientation (as placement)	@ae1145.10	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1796		Square_u_profile to Numeric_parameter (as first_angle)	@ae815.7	M
@ae1797		Square_u_profile to Numeric_parameter (as first_radius)	@ae815.8	M
@ae1798		Square_u_profile to Numeric_parameter (as second_angle)	@ae815.7	M
@ae1799		Square_u_profile to Numeric_parameter (as second_radius)	@ae815.8	M
@ae1800		Square_u_profile to Numeric_parameter (as width)	@ae815.9	M
@ae1145.11		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(80,25,24)	S
@ae1662.8		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.2	M
@ae255.2	*	Curved_dimension_tolerance	#3000	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.8	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430	*	Dimensional_tolerance.dimension_value	31.415	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'Curved length'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1737.2	M
@ae1897.8	*	Tolerance_value	#2288	M
@ae1903	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1373.6	M
@ae1899	*	Tolerance_value.envelope	.F.	S
@ae1373.6	*	Plus_minus_value	#1806	M
@ae1376	*	Plus_minus_value.upper_limit	0.1	S
@ae1374	*	Plus_minus_value.lower_limit	-0.1	S
@ae1375	*	Plus_minus_value.significant_digits	2	S
@ae1737.3		Slot		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.12	M
@ae743		Machining_feature.usage_name	'Slot 3'	S
@ae1745		Slot to Slot_end_type (as end_conditions)	(@ae545,@ae545.2)	S
@ae1742		Slot to Numeric_parameter (as slot_depth)	@ae815.4	M
@ae1744		Slot to Path (as course_of_travel)	@ae1280.3	M
@ae1743		Slot to Open_profile (as swept_shape)	@ae1790.3	M
@ae1145.12		Orientation		M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1146		Orientation.axis	(-1,-1,0,0,0,1,-1,1,0)	S
@ae1147		Orientation.location	(94.142,59.142,24)	S
@ae1280.3		Partial_circular_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.13	M
@ae161		Circular_path to Numeric_parameter (as radius)	@ae815.5	M
@ae1282		Partial_circular_path to Numeric_parameter (as sweep_angle)	@ae815.6	M
@ae1145.13		Orientation		M
@ae1146		Orientation.axis	(1,0,0,0,1,0,0,0,1)	S
@ae1147		Orientation.location	(80,45,24)	S
@ae1790.3		Square_u_profile		M
@ae1421		Profile to Orientation (as placement)	@ae1145.12	M
@ae1796		Square_u_profile to Numeric_parameter (as first_angle)	@ae815.7	M
@ae1797		Square_u_profile to Numeric_parameter (as first_radius)	@ae815.8	M
@ae1798		Square_u_profile to Numeric_parameter (as second_angle)	@ae815.7	M
@ae1799		Square_u_profile to Numeric_parameter (as second_radius)	@ae815.8	M
@ae1800		Square_u_profile to Numeric_parameter (as width)	@ae815.9	M
@ae1662.9		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1737.3	M
@ae255.3	*	Curved_dimension_tolerance	#2900	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.9	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430	*	Dimensional_tolerance.dimension_value	31.415	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'Curved length'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1737.3	M
@ae1897.9	*	Tolerance_value	#2288	M
@ae1903	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1373.6	M
@ae1899	*	Tolerance_value.envelope	.F.	S
@ae231		Constant_radius_edge_round		M
@ae468		Edge_round to Face_shape_element (as first_face_shape)	@ae494	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae467		Edge_round to Face_shape_element (as edge_round_face)	@ae494.2	M
@ae469		Edge_round to Face_shape_element (as second_face_shape)	@ae494.3	M
@ae236		Constant_radius_edge_round to Numeric_parameter (as second_face_offset)	@ae815.10	M
@ae235		Constant_radius_edge_round to Numeric_parameter (as first_face_offset)	@ae815.10	M
@ae237		Constant_radius_edge_round to Numeric_parameter (as radius)	@ae815.11	M
@ae494		Face_shape_element		M
@ae494.2		Face_shape_element		M
@ae494.3		Face_shape_element		M
@ae815.10		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'offset'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae815.11		Numeric_parameter		M
@ae1491		Property_parameter.parameter_name	'radius'	S
@ae818		Numeric_parameter.parameter_value	20	S
@ae817		Numeric_parameter.parameter_units	'mm'	S
@ae1662.10		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae231	M
@ae88		Brep_model		M
@ae98		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.2		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.3		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.2		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.3		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1662.11		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494	M
@ae1662.12		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.2)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.2)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.2	M
@ae1662.13		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	((@ae98.3)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	((@ae94.3)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.3	M
@ae1500.2	*	Radial_dimension_tolerance	#2800	M
@ae435	*	Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.10	M
@ae433	*	Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430	*	Dimensional_tolerance.dimension_value	20	S
@ae432	*	Dimensional_tolerance.significant_digits	2	S
@ae429	*	Dimensional_tolerance.dimension_description	'radius'	S
@ae1736	*	Size_tolerance to Shape_element (as applied_shape)	@ae1354	M
@ae1897.10	*	Tolerance_value	#2288	M
@ae1907	*	Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1882.3	M
@ae1899	*	Tolerance_value.envelope	.T.	S
@ae1882.3	*	Tolerance_limit	#2288	M
@ae1883	*	Tolerance_limit.limit_qualifier	'Max'	S
@ae1354		Planar_face		M
@ae744		Machining_feature to Orientation (as placement)	@ae1145.14	M
@ae743		Machining_feature.usage_name	'Planar face'	S
@ae1358		Planar_face to Direction_element (as removal_direction)	@ae436	M
@ae1359		Planar_face to Linear_path (as course_of_travel)	@ae665.7	M
@ae1360		Planar_face to Linear_profile (as removal_boundary)	@ae686	M
@ae1145.14		Orientation		M
@ae1146		Orientation.axis	(0,0,1,1,0,0,0,1,0)	S
@ae1147		Orientation.location	(0,0,30)	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae436		Direction_element		M
@ae665.7		Linear_path		M
@ae1299		Path to Orientation (as placement)	@ae1145.14	M
@ae667		Linear_path to Numeric_parameter (as distance)	@ae1108	M
@ae686		Linear_profile		M
@ae1421		Profile to Orientation (as placement)	@ae1145.14	M
@ae688		Linear_profile to Numeric_parameter (as profile_length)	@ae1108.2	M
@ae98.4		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.4		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.14		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.4)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.4)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae436	M
@ae1662.15		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae1354	M
@ae231.2		Constant_radius_edge_round		M
@ae468		Edge_round to Face_shape_element (as first_face_shape)	@ae494.4	M
@ae467		Edge_round to Face_shape_element (as edge_round_face)	@ae494.5	M
@ae469		Edge_round to Face_shape_element (as second_face_shape)	@ae494.6	M
@ae236		Constant_radius_edge_round to Numeric_parameter (as second_face_offset)	@ae815.10	M
@ae235		Constant_radius_edge_round to Numeric_parameter (as first_face_offset)	@ae815.10	M
@ae237		Constant_radius_edge_round to Numeric_parameter (as radius)	@ae815.11	M
@ae494.4		Face_shape_element		M
@ae494.5		Face_shape_element		M
@ae494.6		Face_shape_element		M
@ae98.5		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae98.6		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.7		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.5		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.6		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.7		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.16		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.5)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.5)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.4	M
@ae1662.17		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.6)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.6)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.5	M
@ae1662.18		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.7)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.7)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.6	M
@ae1662.19		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae231.2	M
@ae1500.3		Radial_dimension_tolerance		M
@ae435		Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.11	M
@ae430		Dimensional_tolerance.dimension_value	20	S
@ae433		Dimensional_tolerance.unit_of_measure	'mm'	S
@ae432		Dimensional_tolerance.significant_digits	2	S
@ae429		Dimensional_tolerance.dimension_description	'radius'	S

Table 22 - Application elements for Size_tolerance (continued)

Id	V	Application elements	Value	Req
@ae1736		Size_tolerance to Shape_element (as applied_shape)	@ae1354	M
@ae1897.11		Tolerance_value		M
@ae1907		Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1882.4	M
@ae1899		Tolerance_value.envelope	.F.	S
@ae1882.4		Tolerance_limit	#2288	M
@ae1883		Tolerance_limit.limit_qualifier	'MAX'	S
@ae231.3		Constant_radius_edge_round		M
@ae468		Edge_round to Face_shape_element (as first_face_shape)	@ae494.7	M
@ae467		Edge_round to Face_shape_element (as edge_round_face)	@ae494.8	M
@ae469		Edge_round to Face_shape_element (as second_face_shape)	@ae494.9	M
@ae236		Constant_radius_edge_round to Numeric_parameter (as second_face_offset)	@ae815.10	M
@ae235		Constant_radius_edge_round to Numeric_parameter (as first_face_offset)	@ae815.10	M
@ae237		Constant_radius_edge_round to Numeric_parameter (as radius)	@ae815.11	M
@ae494.7		Face_shape_element		M
@ae494.8		Face_shape_element		M
@ae494.9		Face_shape_element		M
@ae98.8		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.9		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae98.10		Brep_shape_aspect_representation		M
@ae100		Brep_shape_aspect_representation to Brep_model (as shape_definition)	@ae88	M
@ae94.8		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.9		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae94.10		Brep_model_element		M
@ae96		Brep_model_element to Brep_model (as element)	@ae88	M
@ae1662.20		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.8)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.8)	S

Table 22 - Application elements for Size_tolerance (concluded)

Id	V	Application elements	Value	Req
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.7	M
@ae1662.21		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.9)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.9)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.8	M
@ae1662.22		Shape_aspect		M
@ae1670		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	(@ae98.10)	S
@ae1667		Shape_aspect to Brep_model_element (as Brep_shape)	(@ae94.10)	S
@ae1673		Shape_aspect to Shape_element (as element)	@ae494.9	M
@ae1662.23		Shape_aspect		M
@ae1669		Shape_aspect to Brep_shape_aspect_representation (as Brep_form)	<not_present>	M
@ae1666		Shape_aspect to Brep_model_element (as Brep_shape)	<not_present>	M
@ae1673		Shape_aspect to Shape_element (as element)	@ae231.3	M
@ae1500.4		Radial_dimension_tolerance		M
@ae435		Dimensional_tolerance to Tolerance_value (as limit)	@ae1897.12	M
@ae433		Dimensional_tolerance.unit_of_measure	'mm'	S
@ae430		Dimensional_tolerance.dimension_value	20	S
@ae432		Dimensional_tolerance.significant_digits	2	S
@ae429		Dimensional_tolerance.dimension_description	'radius'	S
@ae1736		Size_tolerance to Shape_element (as applied_shape)	@ae1354	M
@ae1897.12		Tolerance_value		M
@ae1907		Tolerance_value to Tolerance_definition_select (as defined_value)	@ae1882.4	M
@ae1899		Tolerance_value.envelope	.F.	S

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc2, and gvc3 (and its related derived verdict criteria). The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of the input specification table apply.

The following specific verdict criterion applies:

VC1: The header section of the exchange structure generated by the IUT contains the schema name 'feature_based_process_planning' in the attribute file_section.schema_identifiers as specified in 9.2.3 of ISO 10303-21 (see other1).

6.22.2 Postprocessor

Test purposes covered:

The following general test purposes are covered: g1, g4, and g5.

The following domain test purposes are covered: other9, other10, other11, other12, other14, other15, other26, other27, other28, other29.

The number in column 1 (ignoring the part beyond the decimal point, if any) of table 22, whose rows are non-blank in column 2 (V), identify the AE test purposes covered in this test case.

@aim3,	@aim4,	@aim6,	@aim36,	@aim37,	@aim39,	@aim40,	@aim41,
@aim42,	@aim48,	@aim55,	@aim57,	@aim62,	@aim63,	@aim64,	@aim66,
@aim67,	@aim74,	@aim75,	@aim77,	@aim201,	@aim203,	@aim214,	@aim215,
@aim217,	@aim243,	@aim244,	@aim245,	@aim256,	@aim258,	@aim291,	@aim295,
@aim296,	@aim301,	@aim326,	@aim329,	@aim331,	@aim333,	@aim334,	@aim335,
@aim336,	@aim341,	@aim342,	@aim343,	@aim345,	@aim346,	@aim348,	@aim364,
@aim365,	@aim370,	@aim371,	@aim378,	@aim379,	@aim384,	@aim385,	@aim390,
@aim391,	@aim393,	@aim394,	@aim396,	@aim397,	@aim399,	@aim400,	@aim402,
@aim403,	@aim404,	@aim415,	@aim426,	@aim427,	@aim429,	@aim430,	@aim432,
@aim433,	@aim441,	@aim442,	@aim444,	@aim447,	@aim448,	@aim455,	@aim456,
@aim459,	@aim474,	@aim489,	@aim491,	@aim494,	@aim496,	@aim499,	@aim535,
@aim536,	@aim565,	@aim566,	@aim576,	@aim577,	@aim579,	@aim583,	@aim586,
@aim589,	@aim590,	@aim592,	@aim622,	@aim623,	@aim624,	@aim635,	@aim636,
@aim637,	@aim639,	@aim640,	@aim641,	@aim642,	@aim644,	@aim649,	@aim651,
@aim747,	@aim748,	@aim750,	@aim760,	@aim762,	@aim763,	@aim764,	@aim768,
@aim770,	@aim771,	@aim772,	@aim773,	@aim775,	@aim776,	@aim777,	@aim778,
@aim831,	@aim840,	@aim854,	@aim855,	@aim876,	@aim938,	@aim943,	@aim946

Input specification:

See annex C.

Verdict criteria:

The following general verdict criteria apply: gvc1, gvc4, and gvc5.

The verdict criteria derivable from the application elements with non-blank entities in column 2 (V) of table 22 above apply.

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6.23 Profile_tolerance

Test case summary:

This abstract test case contains the entities Geometric_tolerance, Geometric_tolerance_precedence_relationship, Linear_profile_tolerance and Surface_profile_tolerance.

Note - The Profile_tolerance test part is shown in the figure 20.

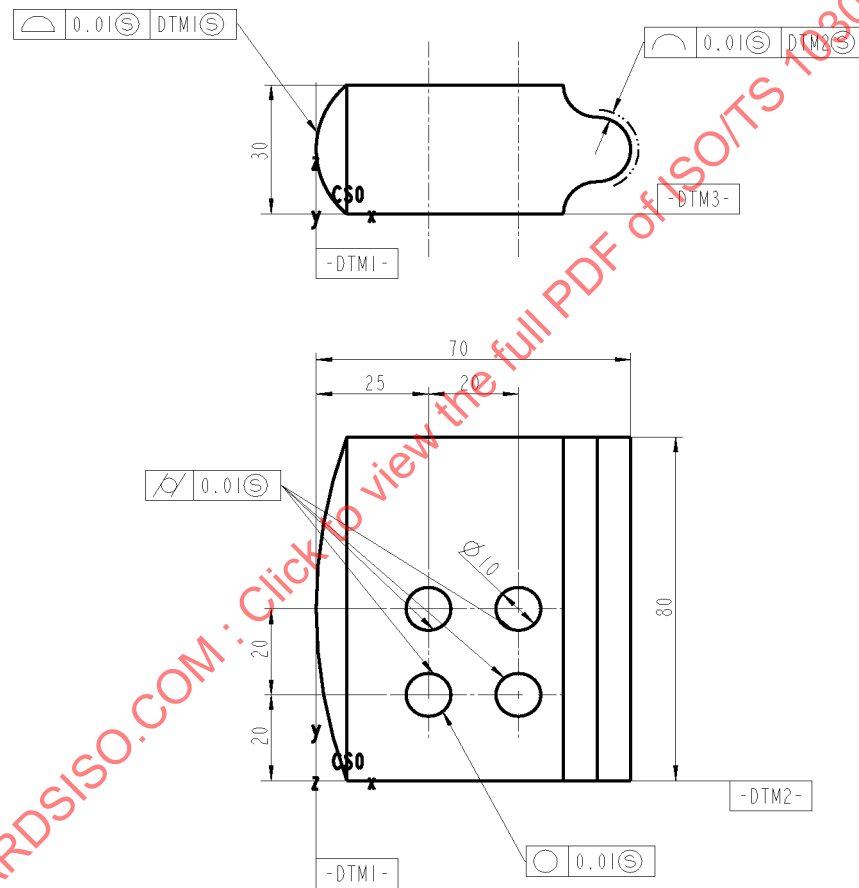


Figure 20 - Profile_tolerance

6.23.1 Preprocessor

Test purposes covered:

The following general test purposes are covered: g1, g2, and g3.

In the preprocessor input specification table of a test case, the numbers in column 1 (ignoring the part beyond the decimal point, if any), whose rows are non-blank in column 2 (V), identify the AE test purposes covered by this test case.

The following other test purpose is covered: other1.

Input specification:

Table 23 - Application elements for Profile_tolerance

Id	V	Application elements	Value	Req
@ae1218		Part		M
@ae1228		Part.part_name	'Profile Tolerance'	S
@ae1229		Part.part_revision_id	'NR'	S
@ae1227		Part.part_id	'12345-PA-67'	S
@ae1226		Part.part_description	'validation part'	S
@ae1233		Part.security_classification	'unclassified'	S
@ae1244		Part to Organization (as manufactured_by_organization)	(@ae1133)	S
@ae1255		Part to Shape (as physical_form)	@ae1648	M
@ae1248		Part to Person_in_organization (as manufactured_by_person)	(@ae1329)	S
@ae1237		Part to Approval (as manufacture_authorization)	<not_present>	M
@ae1250		Part to Person_in_organization (as owned_by_person)	(@ae1329.3)	S
@ae1246		Part to Organization (as owned_by_organization)	(@ae1133)	S
@ae1252		Part to Property (as property_characteristic)	<not_present>	M
@ae1240		Part to Material (as material_definition)	(@ae762)	S
@ae1234		Part to Alternate_material (as alternate_material_definition)	<not_present>	M
@ae1242		Part to Ordered_part (as quantity_ordered)	(@ae1127)	S
@ae1648		Shape		M
@ae1658		Shape to Shape_aspect (as element)	(@ae1662,@ae1662.2,@ae1662.3,@ae1662.4,@ae1662.5,@ae1662.6,@ae1662.7,@ae1662.8)	S
@ae1652		Shape to Base_shape (as base_shape_definition)	@ae65	M