
**Industrial automation systems and
integration — Parts library —**

Part 511:

**Mechanical systems and components for
general use — Reference dictionary for
fasteners**

*Systèmes d'automatisation industrielle et intégration — Bibliothèque de
composants —*

*Partie 511: Systèmes mécaniques et composants pour utilisation
générale — Dictionnaire de référence pour éléments de fixation*



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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 2.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13584-511 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 4, *Industrial data*.

ISO 13584 consists of the following parts, under the general title *Industrial automation systems and integration — Parts library*:

- *Part 1: Overview and fundamental principles;*
- *Part 20: Logical resource: Logical model of expressions;*
- *Part 24: Logical resource: Logical model of supplier library;*
- *Part 25: Logical resource: Logical model of supplier library with aggregate values and explicit content;*
- *Part 26: Logical resource: Information supplier identification;*
- *Part 31: Implementation resource: Geometric programming interface;*
- *Part 42: Description methodology: Methodology for structuring part families;*
- *Part 101: Geometric view exchange protocol by parametric program;*
- *Part 102: View exchange protocol by ISO 10303 conforming specification;*
- *Part 501: Reference dictionary for measuring instruments: Registration procedure;*
- *Part 511: Mechanical systems and components for general use: Reference dictionary for fasteners.*

The structure of the ISO 13584 series is described in ISO 13584-1. The numbering of the parts of ISO 13584 reflects its structure:

- Parts 10 to 19 specify the conceptual descriptions;
- Parts 20 to 29 specify the logical resources;
- Parts 30 to 39 specify the implementation resources;
- Parts 40 to 49 specify the description methodology;
- Parts 100 to 199 specify the view exchange protocols;
- Parts 500 to 599 specify the reference dictionaries.

Should further parts of ISO 13584 be published, they will follow the same numbering pattern.

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Introduction

ISO 13584 is an International Standard for the computer interpretable representation and exchange of parts library data. The objective is to provide a neutral mechanism capable of transferring parts library data, independent of any application that is using a parts library data system. The nature of this description makes it suitable not only for the exchange of files containing parts, but also as a basis for implementing and sharing databases of parts library data.

This International Standard is organized as a series of parts, each published separately. The parts of ISO 13584 fall into one of the following series: conceptual descriptions, logical resources, implementation resources, description methodology, view exchange protocol, and reference dictionaries. The series are described in ISO 13584-1. This part of ISO 13584 is a member of the reference dictionaries series.

The reference dictionaries series of parts of ISO 13584 specify ontologies for representing the entities of an application domain, together with their descriptive properties and domains of values. Each entity, property or domain of values constitutes an entry of a dictionary that is the formal and computer sensible representation of the specified ontology. It is associated with a computer sensible and human readable definition, and with a computer sensible identification. Identification of a dictionary entry allows for unambiguous reference from any application. Definitions and identifications of dictionary entries consist of instances of the EXPRESS entity data types defined in the common dictionary schema, or in its extensions defined in the logical series of parts of ISO 13584.

This part of ISO 13584 specifies a reference dictionary for representing fasteners with their properties and domains of values, as they are described in the various ISO mechanical fastener standards.

The definitions of classes and properties in this fastener dictionary are referenced from:

- various ISO standards (see Bibliography);
- the Federal Item Identification Guide;
- Machinery's Handbook (26th Edition).

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Industrial automation systems and integration — Parts library — Part 511: Mechanical systems and components for general use: Reference dictionary for fasteners

1 Scope

This part of ISO 13584 specifies a reference dictionary for all the parts described in the various ISO mechanical fastener standards, together with their descriptive properties and domains of values.

This part of ISO 13584 specifies a reference dictionary that contains:

- definitions and identifications of the classes of fasteners as they are described in the various ISO mechanical fastener standards, with associated classification schemes;
- definitions and identifications of data element types that represents properties of fasteners, and
- definitions and identifications of domains of values that help to describe the above data element types.

Each class, property or domain of values of this application domain constitutes an entry of the reference dictionary defined in this part of ISO 13584. It is associated with a computer sensible and human-readable definition, and with a computer sensible identification. Identification of a dictionary entry allows for unambiguous reference from any application.

Definitions and identifications of dictionary entries are defined by means of standard data that consist of instances of the EXPRESS entity data types defined in the common dictionary schema, and in its extensions defined in ISO 13584-24 and ISO 13584-25.

The following are within the scope of this part of ISO 13584:

- standard data that represents the classes of fasteners;
- standard data that represents the properties of fasteners;
- standard data that represents domains of values used for properties of fasteners.

The following are outside the scope of this part of ISO 13584:

- methodology for structuring parts families used for specifying standard data defined in this part of ISO 13584;
- implementation method by which the standard data defined in this part of ISO 13584 may be exchanged.

NOTE The structure of the physical file used for exchanging the standard data defined in this part of ISO 13584 is specified in ISO 10303-21. Such a physical file containing all the fastener standard data is also provided as Annex F of this part of ISO 13584.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1891: 1979, *Bolts, screws, nuts and accessories — Terminology and nomenclature*.

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 1: Specification of basic notation*.

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, *Industrial automation systems and integration — Product data representation and exchange — Part 21: Implementation methods: Clear text encoding of the exchange structure*.

ISO 13584-1:2001, *Industrial automation systems and integration — Parts library — Part 1: Overview and fundamental principles*.

ISO 13584-24:2003, *Industrial automation systems and integration — Parts library — Part 24: Logical resources: Logical model of supplier library*.

ISO 13584-25, *Industrial automation systems and integration — Parts library — Part 25: Logical resources: Logical model of supplier library with aggregate values and explicit content*.

ISO 13584-42:1998, *Industrial automation systems and integration — Parts library — Part 42: Description methodology: Methodology for structuring part families*.

IEC 61360-4:1997, *Standard data element types with associated classification scheme for electric components — Part 4: IEC reference collection of standard data element types and component classes*.

3 Terms, definitions, and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

Some of these terms and definitions are repeated for convenience from:

- ISO 10303-1:1994;
- ISO 10303-11:1994;
- ISO 13584-1:2001;
- ISO 13584-24:2003;
- ISO 13584-42:1998.

3.1 Terms and definitions

3.1.1

applicable property

a property that is defined for some family of parts and that shall apply to any part that belongs to this family of parts

[ISO 13584-24:2003]

EXAMPLE For a screw generic family of parts, the thread diameter is an applicable property: this characteristic applies to any screw.

3.1.2

basic semantic unit (BSU)

the entity that provides an absolute and universal identification of certain objects of the application domain

[ISO 13584-42:1998]

EXAMPLE Classes, data element types.

3.1.3

characteristic of a part (part characteristic)

a constant property, characteristic of a part, of which the value is fixed once the part is defined

[ISO 13584-24:2003]

NOTE Changing the value of a characteristic of a part would mean changing the part.

EXAMPLE For a washer, the nominal and outside diameters are part characteristics.

3.1.4

common dictionary schema

the information model for a dictionary, using the EXPRESS modelling language, resulting from a joint effort between ISO TC184/SC4/MG2 and IEC SC3D

[ISO 13584-42:1998]

NOTE The common dictionary schema is specified in IEC 61360-2:2004, and its content is provided in ISO 13584-42:1998, Annex D.

3.1.5

data

a representation of facts, concepts or instructions in a formal manner suitable for communication, interpretation, or processing by human beings or computers

[ISO 10303-1:1994]

3.1.6

data element type (DET)

unit of data for which the identification, the description and value representation have been specified

[ISO 13584-42:1998]

3.1.7

data exchange

the storing, accessing, transferring, and archiving of data

[ISO 10303-1:1994]

3.1.8

data type

a domain of values

[ISO 10303-11:1994]

3.1.9

dictionary

a table consisting of a series of entries. One meaning corresponds to each entry in the dictionary and one dictionary entry identifies one single meaning

[ISO 13584-1:2001]

NOTE 1 In ISO 13584, a dictionary is the formal and computer sensible representation of an ontology.

NOTE 2 In ISO 13584, the kinds of meaning intended to constitute dictionary entries are: supplier, class, property, program library, type, table and document.

NOTE 3 In ISO 13584, the information that represents a dictionary entry is split into three entities: a basic_semantic_unit (BSU), that provides for reference, a dictionary_element that describes the dictionary entry by means of attributes, and, possibly, a content_item entity that describes the dictionary entry by describing its content.

3.1.10

dictionary data

the set of data that describes hierarchies of families of parts and properties of these parts

[ISO 13584-42:1998]

3.1.11

dictionary element

the set of attributes that constitutes the dictionary description of certain objects of the application domain

[ISO 13584-42:1998]

EXAMPLE Classes, data element types.

3.1.12

entity

a class of information defined by common properties

[ISO 10303-11:1994]

3.1.13**entity data type**

a representation of an entity. An entity data type establishes a domain of values defined by common attributes and constraints

[ISO 10303-11:1994]

3.1.14**entity (data type) instance**

a named unit of data that represents a unit of information within the class defined by an entity. It is a member of the domain established by an entity data type

[ISO 10303-11:1994]

3.1.15**family of parts**

a simple or generic family of parts

[ISO 13584-42:1998]

3.1.16**generic family of parts**

a grouping of simple or generic families of parts done for purposes of classification or for factoring common information

[ISO 13584-42:1998]

3.1.17**implementation method**

a technique used by computers to exchange data that is described using the EXPRESS data specification language

[ISO 13584-24:2003]

3.1.18**is-case-of relationship**

a relationship providing a formal expression of the fact that an object conforms to the partial specification defined by another object

[ISO 13584-24:2003]

NOTE In ISO 13584, all the families of parts that declare to be case-of the former family can import all the properties and data types visible or applicable for some family of parts. These properties and data types can then be used to describe the latter families.

3.1.19

library integrated information model (LIIM)

an EXPRESS schema that integrates resource constructs from different EXPRESS schemas for representing supplier libraries for the purpose of exchange and that is associated with conformance requirements

[ISO 13584-24:2003]

3.1.20

ontology

explicit and consensual specification of concepts of an application domain independent of any use of these concepts

NOTE In ISO 13584, a dictionary is the formal and computer sensible representation of ontology.

3.1.21

part

material or functional element that is intended to constitute a component of different products

[ISO 13584-1:2001]

3.1.22

property

information that may be represented by a data element type

[ISO 13584-42:1998]

3.1.23

simple family of parts

a set of parts of which each part may be described by the same group of properties

[ISO 13584-42:1998]

3.1.24

visible property

a property that is defined for some family of parts and that may or may not apply to the different parts of this family of parts

[ISO 13584-42:1998]

EXAMPLE For a generic family of screws, the non-threaded length is a visible property: it is clearly defined for any screw, but only those screws with a non-threaded part have a value for this property.

NOTE The code of the class where a property is defined as visible is part of the identification of the data element type that represents this property.

3.1.25**standard data**

a requirement on a software system defined by means of EXPRESS entity (data type) instances that are supposed to be recognized by this software system

[ISO 13584-24:2003]

3.2 Abbreviations

For the purposes of this document, the following abbreviations apply.

AP	Applicable Property
BSU	Basic Semantic Unit
DC	Definition Class
DCR	Date of Current Revision
DCV	Date of Current Version
DET	Data Element Type
DOD	Date of Original Definition
DT	Data Type
LIIM	Library Integrated Information Model
PLS	Preferred Letter Symbol
PTC	Property Type Classification
SD	Simplified Drawing
SDD	Source Document of Definition
SSP	Sub-class Selection Properties
VF	Value Format
VP	Visible Property

4 Representation of ontology concepts as dictionaries entries**4.1 Fastener class****4.1.1 Modelled class****4.1.1.1 Fastener class and super class**

In this part of ISO 13584, fastener class and thread class are located under the super class -- **mechanical component for general use (see Figure 1).**

NOTE Besides **fastener** class, some other classes, e.g. bearing or spring, will be put under '**mechanical component for general use**' in the future reference dictionary standardization.

Fastener class is classified into five subclasses -- **externally threaded fastener**, **nut**, **rivet**, **pin**, and **washer**, which refer to fasteners classification of International Classification for Standards (ICS). All the modelled classes are shown in Annex C.

mechanical component for general use

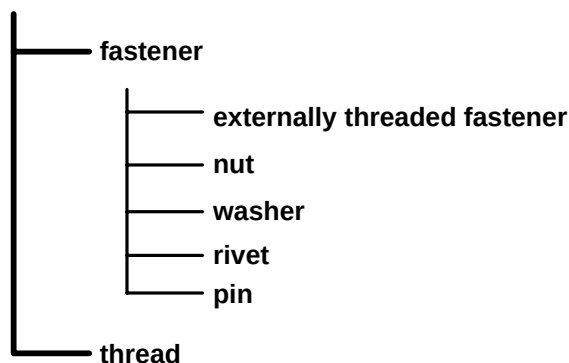


Figure 1 — Item_class under fastener class in this part of ISO 13584

4.1.1.2 Component class

Under top classes, various component classes are defined in this part of ISO 13584 except that **externally threaded fastener** class is classified into two subclasses – **externally threaded fastener component** class and **externally threaded fastener feature** class which describe the components and their geometry features respectively.

EXAMPLE 1 The **externally threaded fastener feature** class is classified into **head**, **shank**, **end**, and **internal drive** class.

All the component classes should be classified into classes of classificatory component, and ulteriorly some corresponding simple family of parts under each classificatory component class. This part of ISO 13584 establishes a mechanism for connecting the component classes to the corresponding feature classes by classification properties and classification property reference properties (see Annex E).

EXAMPLE 2 The **externally threaded fastener component** class is classified into nine component classes — **metric threaded bolt/screw**, **tapping screw**, **wood screw**, **drilling screw**, **set screw**, **stud**, **headless screw with shank**, **stud bolt** and **thread forming screw**.

EXAMPLE 3 The structure of **externally threaded fastener** class is shown in Figure 2.

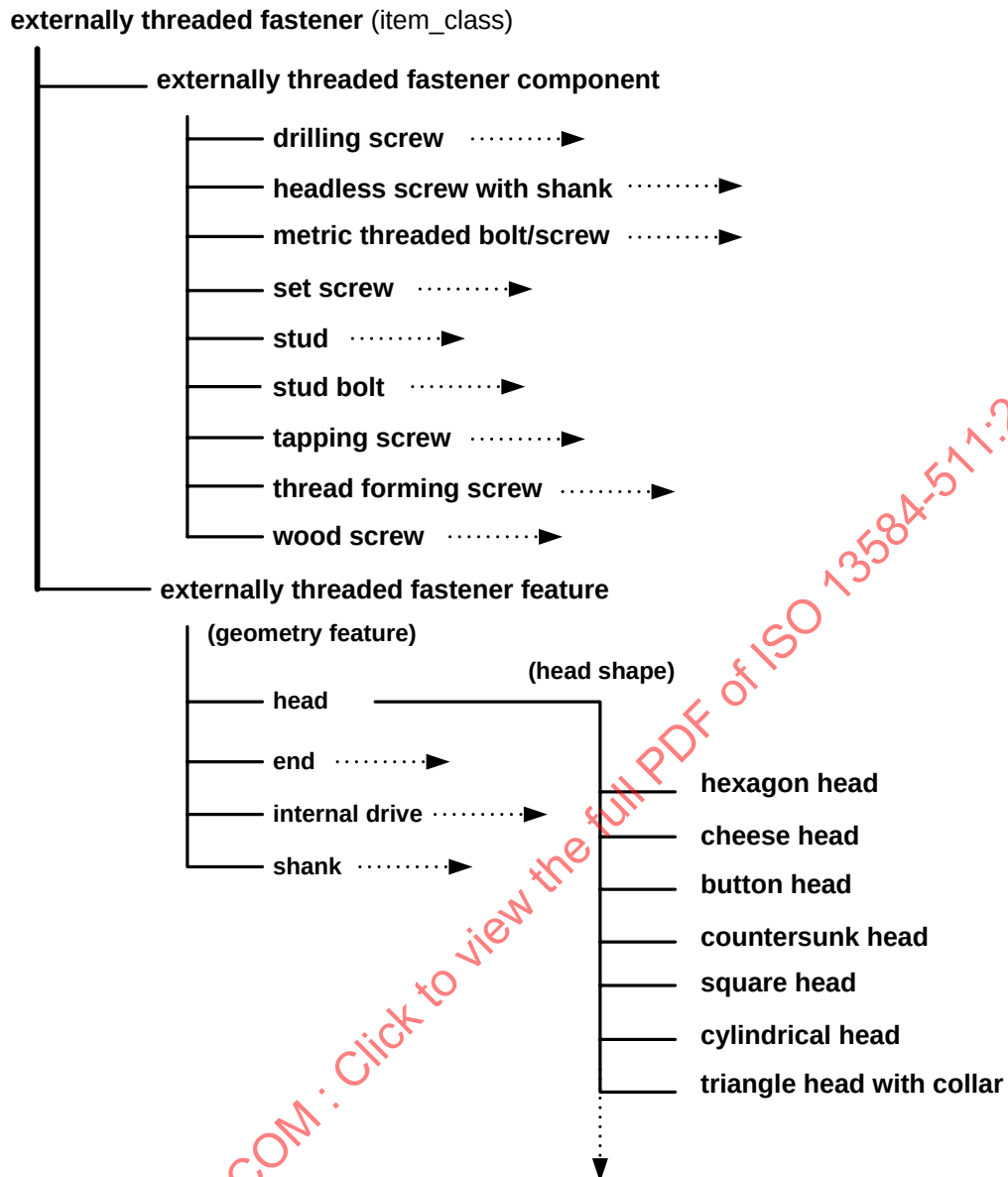


Figure 2 — The structure of externally threaded fastener class

The classification of fasteners is shown in Annex B.

4.1.2 Referenced classes

There is not any referenced class in this part of ISO 13584 from other classifications.

4.1.3 Used attributes

In this part of ISO 13584, classes are defined by means of the following information elements specified in ISO 13584-42:

— Code

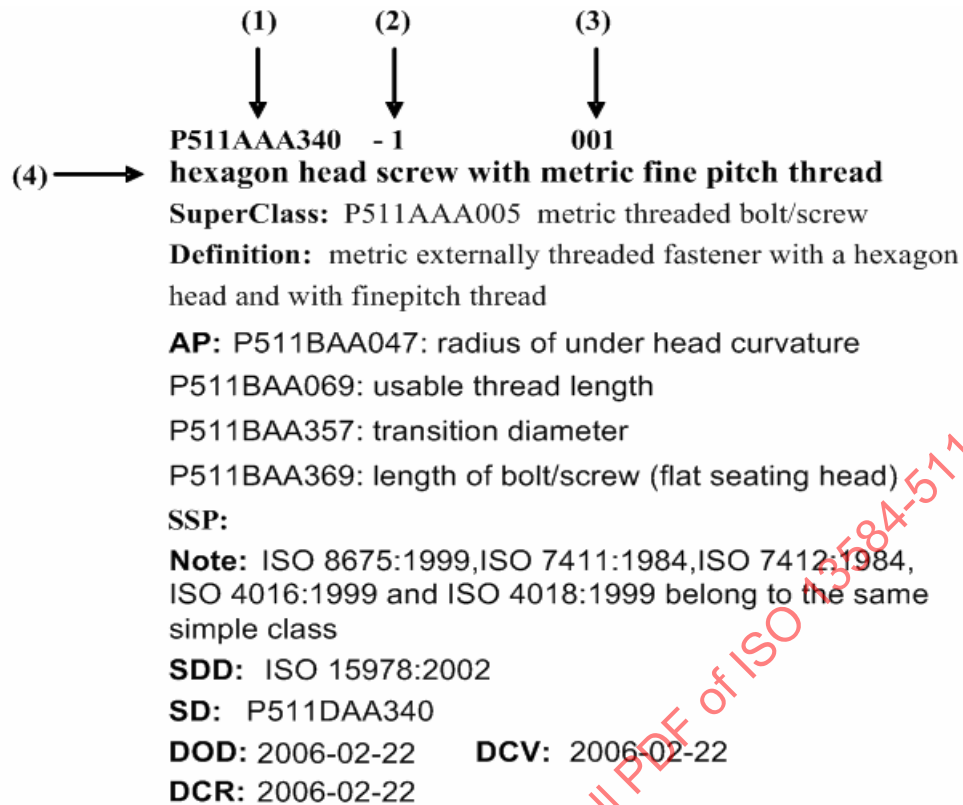
- Super Class
- Preferred Name
- Sub-Class Selection Properties
- Visible Properties
- Applicable Properties
- Class Value Assignment
- Definition
- Source Document of Definition
- Date of Current Version
- Date of Current Revision
- Date of Original Definition
- Note
- Remark
- Version Number
- Revision Number
- Simplified Drawing

The following information elements specified in ISO 13584-42 are not used for defining the classes specified in this part of ISO 13584:

- Short Name
- Synonymous Name
- Visible Types
- Applicable Types

4.1.4 Layout

Class definitions of all fastener parts including all their attributes of the classes are listed in Annex C — fastener class definitions. Figure 3 shows the documentation style of fastener class definition. Figure 4 shows the position and some inherited properties of class P511AAA340 in the hierarchy.



NOTE (1) — Code
(2) — Version number
(3) — Revision Number

Figure 3 — Layout of class definition

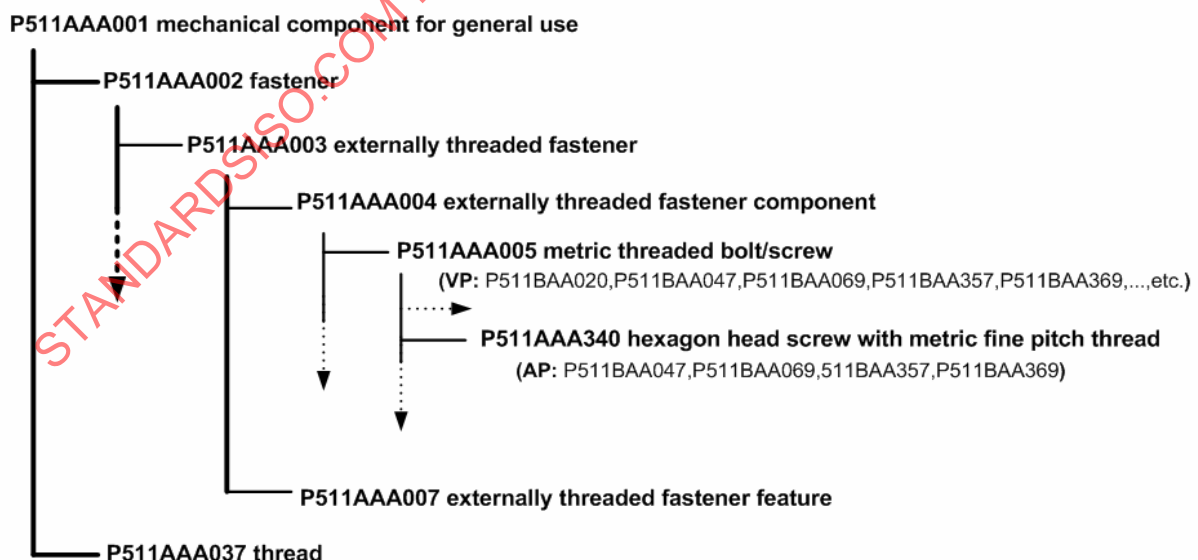


Figure 4 — Position and some inherited properties of class P511AAA340

Layout principle for class definition:

- Abbreviations defined in 3.26 would be used for corresponding attribute names;
- Mandatory attributes should appear in the definition list;
- Optional attributes can be omitted when they are empty;
- Each class indicated in superclass, or property indicated in **applicable property** (AP) or **sub-class selection property** (SSP) should include both its code and preferred name.

4.2 Property DET definitions

4.2.1 Modelled date types

For the purpose of this part of ISO 13584, two different kinds of properties are specified in this part of ISO 13584, **general properties** and **classification properties**.

General properties consist of feature properties and non-feature properties.

Classification properties of which the data type is **non_quantitative_code_type** are only used for **feature classes** to indicate what subclasses belong to the classes of the current level.

NOTE **Feature class** reference properties of which the data type is **class_instance_type** in the component branch are only for connecting each component class to the corresponding referenced **feature class**.

4.2.2 Imported properties

In this part of ISO 13584, the following properties are imported from IEC 61360-4.

- International standard
- Security authentication
- Mass
- National standard

4.2.3 Used attributes

In this part of ISO 13584, property DETs are defined by means of the following information elements specified in ISO 13584-42:

- Code
- Definition Class
- Data Type
- Preferred Name
- Definition
- Preferred Letter Symbol

- Unit
- Format
- Property Type Classification
- Note
- Remark
- Source Document of Definition
- Value Format
- Date of Original Definition
- Date of Current version
- Date of Current revision
- Version Number
- Revision Number

The following information elements specified in ISO 13584-42 are not used for defining the property DETs specified in this part of ISO 13584:

- Condition
- Short Name
- Formula
- Synonymous Letter Symbols
- Synonymous Name

Property DETs are listed in Annex D — Property DET definitions.

4.2.4 Layout

Figure 5 shows the specification for the documentation style of property DET definition.

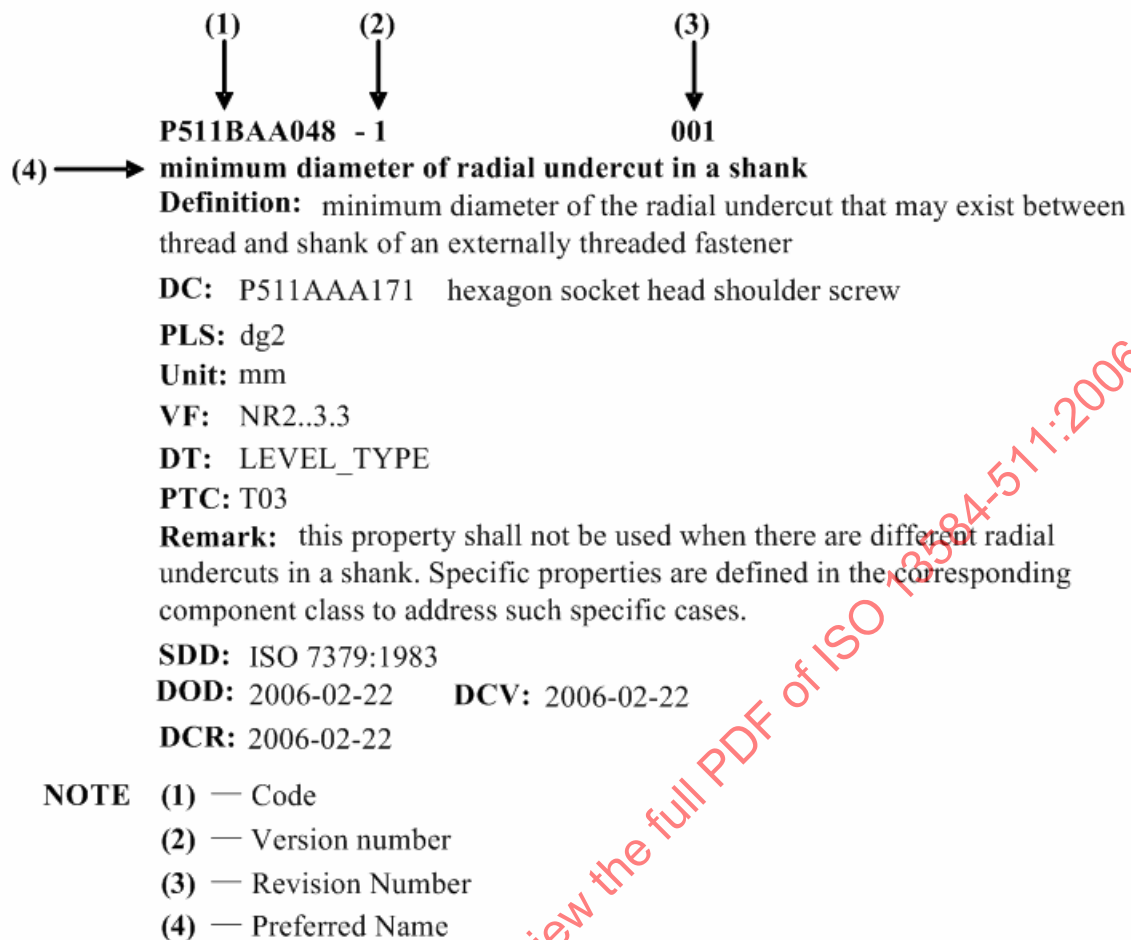


Figure 5 — Layout of property DET definition

Layout principle for property DET definition:

- Abbreviations defined in 3.26 would be used for corresponding attribute names;
- Mandatory attributes should appear in the definition list;
- Optional attributes can be omitted when they are empty;
- The class indicated in class definition (CD) should include both its code and preferred name.

4.3 Data type definitions

4.3.1 Data type properties

Six data types are used for the properties modelled in this part of ISO 13584. They are **real_measure_type** for geometry properties, **non_quantitative_code_type** for code of hardness test method identification, fastener coating code, fastener material identification, thread tolerance properties, property class, and classification properties, **class_instance_type** for reference properties of feature class, **level_type** for value of some hardness properties, **entity_instance_type** for external

picture of non-standardised shape feature properties and **string_type** for other properties that can be described by character string.

4.3.2 Used attributes

This part of ISO 13584 has no used attributes for data type definitions.

4.4 Rules for formulating class and property definitions

Fastener class or property definition shall consist of a single phrase specifying the class or property concept reflecting the position of the concept in the concept system. For the wording of the definition this requirement implies the following rules:

Definition Rule 1 The preferred structure of a definition is a basic part stating the class to which the concept belongs, and another part enumerating the characteristics that distinguish the concept from other members of the class.

Definition Rule 2 The preferred terms defined in other entries of the same document or in other related document shall be used wherever possible. The repetition of other definitions or parts of definitions shall be avoided provided they can be replaced by a preferred term.

Definition Rule 3 Preferred terms used within definitions shall always be given in full as actually occurring.

5 Classification principles

5.1 Connection to pre-existing classification

This part of ISO 13584 has no connection to pre-existing classification except ICS.

NOTE ICS is mainly used for positioning the dictionary defined in this standard with respect to other domain dictionaries defined in other standards. ICS classification does not directly correspond to the internal classification used in this standard which reflects the technical terms used in the fastener field.

5.2 Upper level of the hierarchy

According to the RULE 2 defined in ISO 13584-42: 1998, 6.1.2, the upper level of the hierarchy in this part of ISO 13584 is based on the fasteners hierarchy in the ICS (See 4.1.1 and 4.1.2).

5.3 Lower level of the hierarchy

In order to simplify and reduce the depth of the fasteners classification at the lower level of the hierarchy of this part of ISO 13584, two branches: feature class and component class are branches specified under item class. (See 4.1.1)

In addition to RULE 1 to RULE 8 defined in ISO 13584-42: 1998, the following rules are also applied to this part of ISO 13584.

Additional Rule 1 Define lower level classes only when needed for properties definition. The role of non-leaf (non-property) classes of the lower section ("generic families of parts") is only to precisely define the meaning of each property. Thus, in the lower level of the hierarchy, introduce a new subclass if and only if it is required to define the domain of meaning of a property. No class shall exist which is distinguished from another class only by the values of some properties.

NOTE Non-leaf component class is allowed for the potential user extension in this part of ISO 13584.

Additional Rule 2 All the properties defined in all the ISO fastener standards shall be defined in the dictionary.

Additional Rule 3 If needed, class valued properties (also called classification properties) can take their values several levels below the level where they are defined.

5.4 Coding style

In order to give a universal identification of Class and Property BSU, the coding style has been defined in this section.

Additional Rule 4 The coding style for this part of ISO 13584 (see Figure 6) is as follows:

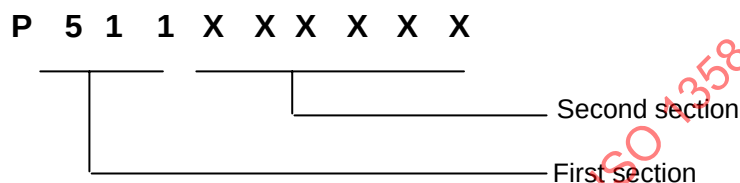


Figure 6 — Coding style

- Totally 10 characters divided into two sections;
- The first section has 4 characters of a constant string 'P511' for fastener dictionary of this part of ISO 13584;
- The second section has 6 characters of a meaningless alphanumeric characters sequence.

EXAMPLE P511AAA003 identifies **externally threaded fastener** class; P511BAA024 identifies **pitch** property.

5.5 General and classification property

For the purpose of this part of ISO 13584, property defined in ISO 13584-42 is divided into two types:

- General property
- Classification property

They have the same attributes as defined in ISO 13584-42, but have different functions.

5.5.1 General property

General properties under one class are the definitions for the class (See 4.2.1). For the layout example of general properties, see 4.2.4.

5.5.2 Classification property

Classification property indicates what subclasses are specified under current class by their values — a set of non_quantitative codes.

Classification properties are normally visible at item class level from which the class will be divided into a feature branch and a component branch and applicable at suitable class level in feature branch and component branch of the hierarchy.

Table E.1 specifies classification properties and their values in this part of ISO 13584.

6 Computer sensible description

6.1 External file

ISO 13584 specifies an external file reference mechanism to assign additional documentation in electronic or non-electronic form to the product, task/activity or definitions of the fasteners dictionary. The mechanism makes it easy for users to access information, which is outside the scope of this international standard.

In this part of ISO 13584, the reference mechanism of the external file for the fasteners dictionary is shown in Figure 7.

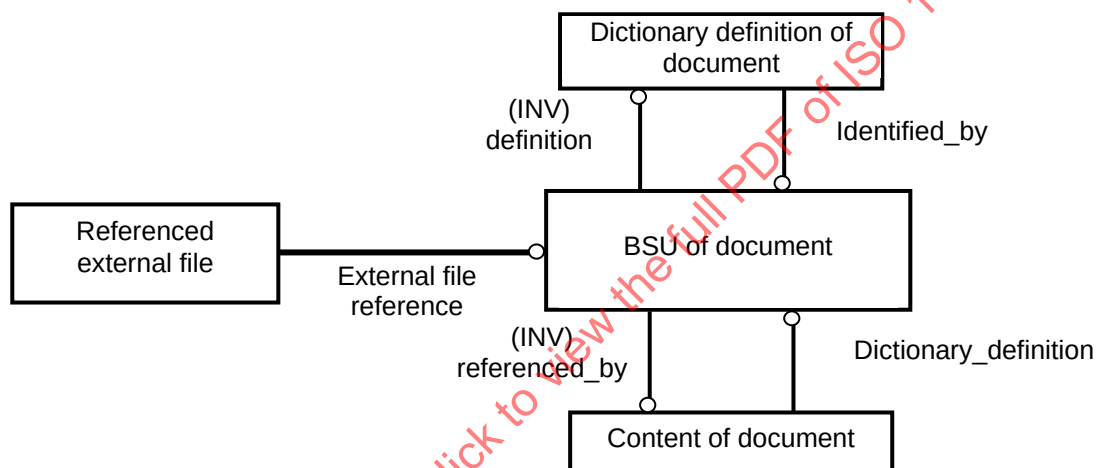


Figure 7 — External reference mechanism

In the fasteners dictionary, one kind of external files is referenced by **referenced_graphics**, which is the subtype of **graphics**, to specify the **simplified_drawing** attributes of the simple family of parts. The domain of the **graphics_reference** attribute of the **referenced_graphics** is **document_BSU**. Based on the **document_BSU**, the computer can find the corresponding **document_element** and **document_content**. So the computer can access and process the document.

EXAMPLE The simplified drawing attribute of the P511AAA015 class (**Round head**) references P511DAA015, which is the code of the external file that represents the round head of bolt/screw. The last five alphanumeric characters of the code are the same as those of the class it belongs.

NOTE All the documents of graphics of parts are provided in this part of ISO 13584 with JPG format.

The description of external file should conform to the **ISO13584_extended_dictionary_schema** and the **ISO13584_external_file_schema** of which EXPRESS specifications are defined in ISO 13584-24: 2003.

6.2 Information model and conformance class

This part of ISO 13584 conforms to the library integrated information model LIIM 25 defined in ISO 13584-25 and the library integrated information model LIIM 24 defined in ISO 13584-24: 2003.

The schema used in this part of ISO 13584 conforms to the conformance class 2 defined in ISO 13584-25. The conformance class 2 addresses those implementations that support conformance class 1 and that support aggregate data types and values. An implementation of conformance class 2 of library integrated information model LIIM 25 shall support the following entities and related constructs.

```

SCHEMA ISO13584_25_IEC61360_5_liim_schema;

USE FROM ISO13584_IEC61360_dictionary_schema
    (axis1_placement_type,
     axis2_placement_2d_type,
     axis2_placement_3d_type,
     boolean_type,
     class_BSU,
     class_instance_type,
     class_value_assignment,
     complex_type,
     component_class,
     condition_DET,
     data_type_BSU,
     data_type_element,
     dates,
     dependent_P_DET,
     dic_unit,
     dic_value,
     entity_instance_type,
     identified_document,
     int_currency_type,
     int_measure_type,
     int_type,
     integer_type,
     item_class,
     item_names,
     label_with_language,
     level_type,
     material_class,
     mathematical_string,
     named_type,
     non_dependent_P_DET,
     non_quantitative_code_type,
     non_quantitative_int_type,
     non_si_unit,
     number_type,
     placement_type,
     property_BSU,
     property_DET,
     real_currency_type,
     real_measure_type,
     real_type,
     string_type,
     supplier_BSU,
     supplier_element,
     value_domain);

```

```
USE FROM ISO13584_IEC61360_language_resource_schema
(global_language_assignment, present_translations,
translated_label, translated_text);
```

```
USE FROM ISO13584_instance_resource_schema (null_value, primitive_value,
null_or_primitive_value, simple_value, null_or_simple_value,
number_value, null_or_number_value, integer_value,
null_or_integer_value, real_value, null_or_real_value,
boolean_value, null_or_boolean_value, translatable_string_value,
translated_string_value, string_value,
null_or_translatable_string_value, complex_value,
null_or_complex_value,
entity_instance_value,
null_or_entity_instance_value,
defined_entity_instance_value,
controlled_entity_instance_value,
STEP_entity_instance_value,
PLIB_entity_instance_value,
property_or_data_type_BSU,
level_spec_value,
null_or_level_spec_value,
int_level_spec_value,
null_or_int_level_spec_value,
real_level_spec_value,
null_or_real_level_spec_value,
property_value,
context_dependent_property_value,
dic_class_instance,
null_or_dic_class_instance,
dic_component_instance,
dic_feature_instance,
dic_material_instance,
lib_component_instance,
lib_feature_instance,
lib_material_instance,
dic_f_model_instance,
lib_f_model_instance);
```

```
USE FROM ISO13584_IEC61360_dictionary_aggregate_extension_schema
(entity_instance_type_for_aggregate, list_type, set_type, bag_type,
array_type, set_with_subset_constraint_type);
```

```
USE FROM ISO13584_extended_dictionary_schema (dictionary,
dictionary_in_standard_format, library_iim_identification,
view_exchange_protocol_identification, representation_type,
geometric_representation_context_type,
representation_reference_type, program_reference_type,
program_library_BSU, document_BSU,
supplier_program_library_relationship, class_document_relationship,
representation_P_DET, class_related_dictionary_element,
program_library_element, document_element,
```

```
document_element_with_http_access,
document_element_with_translated_http_access,
referenced_document,
referenced_graphics,
feature_class,
functional_model_class,
fm_class_view_of,
functional_view_class,
non_instantiable_functional_view_class,
view_control_variable_range,
item_class_case_of,
component_class_case_of,
material_class_case_of,
feature_class_case_of,
a_posteriori_case_of,
a_posteriori_view_of);
```

```
USE FROM ISO13584_external_file_schema
(standard_simple_program_protocol,
non_standard_simple_program_protocol,
linked_interface_program_protocol, standard_data_protocol,
non_standard_data_protocol, http_protocol, program_library_content,
document_content, representation_reference, program_reference,
property_value_external_item, message, illustration,
A6_illustration, A9_illustration, translated_external_content,
not_translated_external_content, not_translatable_external_content,
language_specific_content, external_file_unit, http_file,
http_class_directory, simple_program_protocol);
```

```
USE FROM ISO13584_aggregate_value_schema
(aggregate_entity_instance_value, list_value, set_value, bag_value,
array_value, set_with_subset_constraint_value);
```

```
USE FROM ISO13584_library_content_schema (library,
library_in_standard_format, explicit_item_class_extension,
explicit_functional_model_class_extension,
property_classification, property_value_recommended_presentation);
```

```
USE FROM measure_schema (amount_of_substance_measure, area_measure,
context_dependent_measure, context_dependent_unit,
conversion_based_unit, count_measure, derived_unit,
derived_unit_element, dimensional_exponents,
electric_current_measure, global_unit_assigned_context,
length_measure, length_measure_with_unit, length_unit,
luminous_intensity_measure, mass_measure, measure_value,
measure_with_unit, named_unit, numeric_measure, parameter_value,
plane_angle_measure, positive_length_measure,
positive_plane_angle_measure, ratio_measure, si_unit,
solid_angle_measure, thermodynamic_temperature_measure,
time_measure, volume_measure);
```

```
USE FROM person_organization_schema (address, organization, person);

USE FROM date_time_schema (date, date_and_time, local_time,
    calendar_date, ordinal_date, week_of_year_and_day_date);

USE FROM geometry_schema (axis1_placement, axis2_placement_2D,
    axis2_placement_3D, geometric_representation_context, placement);

USE FROM representation_schema
    (representation,
    representation_context,
    representation_item);

USE FROM application_context_schema
    (application_context,
    application_context_element,
    application_protocol_definition);

END_SCHEMA; -- ISO13584_25_IEC61360_5_liim_schema
```

Annex A (normative)

Information object registration

A.1 Document identification

In order to provide for unambiguous identification of an information object in an open system, the object identifier:

{ISO standard 13584 part (511) version (1)}

is assigned to this part of ISO 13584. The meaning of this value is defined in ISO/IEC 8824-1, and is described in ISO 13584-1.

A.2 Dictionary identification

The dictionary defined in this part of ISO 13584 is assigned the object identifier:

{ISO standard 13584 part (511) version (1) object (1) fasteners (1)}

Annex B (normative)

Classification tables

Table B.1 specifies the classification structure and codes of each class defined in this part of ISO 13584.

Table B.1 — Classification structure of classes

Classification Structure					SuperClass	Code
mechanical component for general use						P511AAA001
	fastener				P511AAA001	P511AAA002
		externally threaded fastener			P511AAA002	P511AAA003
			externally threaded fastener component		P511AAA003	P511AAA004
				drilling screw	P511AAA004	P511AAA210
				cross recessed (type H) countersunk head drilling screw	P511AAA210	P511AAA213
				cross recessed (type H) pan head drilling screw	P511AAA210	P511AAA212
				cross recessed (type H) raised countersunk drilling screw	P511AAA210	P511AAA214
				cross recessed (type Z) countersunk head drilling screw	P511AAA210	P511AAA287
				cross recessed (type Z) pan head drilling screw with tapping screw thread	P511AAA210	P511AAA286
				cross recessed (type Z) raised countersunk head drilling screw	P511AAA210	P511AAA288
				hexagon washer head drilling screw	P511AAA210	P511AAA211
				headless screw with shank	P511AAA004	P511AAA354
				slotted headless screw with shank	P511AAA354	P511AAA187

Classification Structure					SuperClass	Code
				metric threaded bolt/screw	P511AAA004	P511AAA005
				countersunk flat head screw with cross recess (type H)	P511AAA005	P511AAA184
				countersunk flat head screw with cross recess (type Z)	P511AAA005	P511AAA281
				cross recessed (type H) cheese head screw	P511AAA005	P511AAA181
				cross recessed (type H) pan head screw	P511AAA005	P511AAA182
				cross recessed (type Z) cheese head screw	P511AAA005	P511AAA279
				cross recessed (type Z) pan head screw	P511AAA005	P511AAA280
				cup head square neck bolt	P511AAA005	P511AAA051
				cup head square neck bolt with large head	P511AAA005	P511AAA158
				hexagon head bolt	P511AAA005	P511AAA156
				hexagon head bolt with flange with fine pitch thread, full shank	P511AAA005	P511AAA081
				hexagon head bolt with flange with fine pitch thread, reduced shank	P511AAA005	P511AAA146
				hexagon head bolt with flange, full shank	P511AAA005	P511AAA047
				hexagon head bolt with flange, reduced shank	P511AAA005	P511AAA157
				hexagon head bolt with metric fine pitch thread	P511AAA005	P511AAA339
				hexagon head screw	P511AAA005	P511AAA169
				hexagon head screw with metric fine pitch thread	P511AAA005	P511AAA340
				hexagon socket button head screw	P511AAA005	P511AAA172

Classification Structure					SuperClass	Code
				hexagon socket countersunk head screw	P511AAA005	P511AAA173
				hexagon socket head cap screw	P511AAA005	P511AAA170
				hexagon socket head cap screw with metric fine pitch thread	P511AAA005	P511AAA342
				hexagon socket head shoulder screw	P511AAA005	P511AAA171
				hexalobular socket cheese head screw	P511AAA005	P511AAA174
				hexalobular socket head cap screw	P511AAA005	P511AAA050
				hexalobular socket pan head screw	P511AAA005	P511AAA175
				hexalobular socket raised countersunk head screw	P511AAA005	P511AAA176
				octagon head bolt	P511AAA005	P511AAA163
				raised countersunk head screw with cross recess (type H)	P511AAA005	P511AAA185
				raised countersunk head screw with cross recess (type Z)	P511AAA005	P511AAA282
				slotted cheese head screw	P511AAA005	P511AAA177
				slotted countersunk flat head screw	P511AAA005	P511AAA179
				slotted pan head screw	P511AAA005	P511AAA178
				slotted raised countersunk head screw	P511AAA005	P511AAA180
				square head bolt	P511AAA005	P511AAA159
				square head bolt with collar	P511AAA005	P511AAA160
				T-head bolt	P511AAA005	P511AAA166
				triangle head bolt	P511AAA005	P511AAA162
				set screw	P511AAA004	P511AAA186

Classification Structure						SuperClass	Code
					hexagon socket set screw with cone point	P511AAA186	P511AAA189
					hexagon socket set screw with cup point	P511AAA186	P511AAA191
					hexagon socket set screw with dog point	P511AAA186	P511AAA190
					hexagon socket set screw with flat point	P511AAA186	P511AAA188
					slotted set screw with cone point	P511AAA186	P511AAA192
					slotted set screw with cup point	P511AAA186	P511AAA195
					slotted set screw with flat point	P511AAA186	P511AAA193
					slotted set screw with long dog point	P511AAA186	P511AAA194
					stud	P511AAA004	P511AAA049
					stud with full shank	P511AAA049	P511AAA091
					waisted stud	P511AAA049	P511AAA071
					stud bolt	P511AAA004	P511AAA099
					tapping screw	P511AAA004	P511AAA196
					cross recessed (type H) countersunk head tapping screw with a cone end	P511AAA196	P511AAA203
					cross recessed (type H) countersunk head tapping screw with a flat end	P511AAA196	P511AAA269
					cross recessed (type H) pan head tapping screw with a cone end	P511AAA196	P511AAA201
					cross recessed (type H) pan head tapping screw with a flat end	P511AAA196	P511AAA270
					cross recessed (type H) raised countersunk head tapping screw with a cone end	P511AAA196	P511AAA204

Classification Structure						SuperClass	Code
					cross recessed (type H) raised countersunk head tapping screw, flat end	P511AAA196	P511AAA244
					cross recessed (type Z) countersunk head tapping screw with a cone end	P511AAA196	P511AAA284
					cross recessed (type Z) countersunk head tapping screw with a flat end	P511AAA196	P511AAA268
					cross recessed (type Z) pan head tapping screw with a cone end	P511AAA196	P511AAA283
					cross recessed (type Z) pan head tapping screw with a flat end	P511AAA196	P511AAA144
					cross recessed (type Z) raised countersunk head tapping screw with a cone end	P511AAA196	P511AAA285
					cross recessed (type Z) raised countersunk head tapping screw with a flat end	P511AAA196	P511AAA267
					hexagon flange head tapping screw with a cone end	P511AAA196	P511AAA202
					hexagon flange head tapping screw with a flat end	P511AAA196	P511AAA271
					hexagon head tapping screw with a cone end	P511AAA196	P511AAA197
					hexagon head tapping screw with a flat end	P511AAA196	P511AAA293
					hexagon washer head tapping screw with a cone end	P511AAA196	P511AAA205
					hexagon washer head tapping screw with a flat end	P511AAA196	P511AAA243
					hexalobular socket countersunk head tapping screw with a cone end	P511AAA196	P511AAA207
					hexalobular socket countersunk head tapping screw with a flat end	P511AAA196	P511AAA226

Classification Structure						SuperClass	Code
					hexalobular socket countersunk head tapping screw with a rounded end	P511AAA196	P511AAA238
					hexalobular socket pan head tapping screw with a cone end	P511AAA196	P511AAA206
					hexalobular socket pan head tapping screw with a flat end	P511AAA196	P511AAA239
					hexalobular socket pan head tapping screw with a rounded end	P511AAA196	P511AAA242
					hexalobular socket raised countersunk head tapping screw with a cone end	P511AAA196	P511AAA208
					hexalobular socket raised countersunk head tapping screw with a flat end	P511AAA196	P511AAA291
					hexalobular socket raised countersunk head tapping screw with a rounded end	P511AAA196	P511AAA292
					slotted countersunk (flat) head tapping screw with a cone end	P511AAA196	P511AAA199
					slotted countersunk(flat) head tapping screw with a flat end	P511AAA196	P511AAA290
					slotted pan head tapping screw with a cone end	P511AAA196	P511AAA198
					slotted pan head tapping screw with a flat end	P511AAA196	P511AAA139
					slotted raised countersunk (oval) head tapping screw with a cone end	P511AAA196	P511AAA200
					slotted raised countersunk(oval) head tapping screw with a flat end	P511AAA196	P511AAA289
					thread forming screw	P511AAA004	P511AAA309
					wood screw	P511AAA004	P511AAA209
					externally threaded fastener feature	P511AAA003	P511AAA007

Classification Structure					SuperClass	Code
				end	P511AAA007	P511AAA028
				as-rolled end	P511AAA028	P511AAA029
				chamfered end	P511AAA028	P511AAA031
				cone end (type C) of tapping screw	P511AAA028	P511AAA130
				cone point	P511AAA028	P511AAA032
				cup point	P511AAA028	P511AAA034
				dog point	P511AAA028	P511AAA035
				drilling point of drilling screw	P511AAA028	P511AAA012
				end of thread forming screw	P511AAA028	P511AAA006
				flat end (type F) of tapping screw	P511AAA028	P511AAA132
				flat point	P511AAA028	P511AAA131
				pilot point	P511AAA028	P511AAA349
				rounded end	P511AAA028	P511AAA030
				rounded end (type R) of tapping screw	P511AAA028	P511AAA138
				scrape point	P511AAA028	P511AAA036
				truncated cone point	P511AAA028	P511AAA033
				truncated pilot point	P511AAA028	P511AAA350
				head	P511AAA007	P511AAA008
				12 point flange head	P511AAA008	P511AAA121
				button head	P511AAA008	P511AAA223
				cheese head	P511AAA008	P511AAA016

Classification Structure						SuperClass	Code
					countersunk head	P511AAA008	P511AAA019
					cup head	P511AAA008	P511AAA353
					cylindrical head	P511AAA008	P511AAA122
					eye shape head	P511AAA008	P511AAA021
					eyelet shape head	P511AAA008	P511AAA022
					head with knurl	P511AAA008	P511AAA351
					head with tommy	P511AAA008	P511AAA046
					head with wings	P511AAA008	P511AAA352
					hexagon head	P511AAA008	P511AAA009
					hexagon head with collar	P511AAA008	P511AAA217
					hexagon head with flange	P511AAA008	P511AAA011
					hexagon head with washer face	P511AAA008	P511AAA010
					octagonal head	P511AAA008	P511AAA120
					pan head	P511AAA008	P511AAA018
					raised cheese head	P511AAA008	P511AAA017
					raised countersunk head	P511AAA008	P511AAA020
					round head	P511AAA008	P511AAA015
					square head	P511AAA008	P511AAA023
					square head with collar	P511AAA008	P511AAA013
					T-head	P511AAA008	P511AAA014
					triangle head with collar	P511AAA008	P511AAA119

Classification Structure					SuperClass	Code
				internal drive	P511AAA007	P511AAA042
				12 point socket	P511AAA042	P511AAA143
				cross hole	P511AAA042	P511AAA147
				cross recess (type H)	P511AAA042	P511AAA045
				cross recess (type Z)	P511AAA042	P511AAA272
				hexagon socket	P511AAA042	P511AAA043
				hexalobular socket	P511AAA042	P511AAA222
				six-spline socket	P511AAA042	P511AAA142
				slot	P511AAA042	P511AAA044
				square socket	P511AAA042	P511AAA141
				triangle socket	P511AAA042	P511AAA140
				shank	P511AAA007	P511AAA024
				fit shank	P511AAA024	P511AAA128
				full shank	P511AAA024	P511AAA125
				reduced shank	P511AAA024	P511AAA126
				shank with square neck	P511AAA024	P511AAA025
				shoulder	P511AAA024	P511AAA129
				waisted shank	P511AAA024	P511AAA127
				nut	P511AAA002	P511AAA052
				cap nut	P511AAA052	P511AAA311
				domed cap(acorn) nut	P511AAA052	P511AAA312

Classification Structure				SuperClass	Code
			hexagon castle nut	P511AAA052	P511AAA229
			hexagon nut (style 1)	P511AAA052	P511AAA313
			hexagon nut with collar	P511AAA052	P511AAA314
			hexagon nut with flange	P511AAA052	P511AAA228
			hexagon nut(style 2)	P511AAA052	P511AAA326
			hexagon thin nut (chamfered)	P511AAA052	P511AAA327
			hexagon thin nut (unchamfered)	P511AAA052	P511AAA338
			octagon nut	P511AAA052	P511AAA323
			pentagon nut	P511AAA052	P511AAA322
			prevailing torque type all-metal hexagon nut (style 1)	P511AAA052	P511AAA330
			prevailing torque type all-metal hexagon nut (style 2)	P511AAA052	P511AAA331
			prevailing torque type all-metal hexagon nut with flange	P511AAA052	P511AAA333
			prevailing torque type hexagon nut with flange, with non-metallic insert	P511AAA052	P511AAA332
			prevailing torque type hexagon nut with non-metallic insert (style 1)	P511AAA052	P511AAA328
			prevailing torque type hexagon nut with non-metallic insert (style 2)	P511AAA052	P511AAA329
			round nut with holes in face	P511AAA052	P511AAA232
			round nut with holes in side	P511AAA052	P511AAA315
			round nut with knurl	P511AAA052	P511AAA318
			round nut with slot in face	P511AAA052	P511AAA316

Classification Structure				SuperClass	Code
			round nut with slots in side	P511AAA052	P511AAA317
			slotted hexagon nut	P511AAA052	P511AAA227
			square nut	P511AAA052	P511AAA319
			square nut with collar	P511AAA052	P511AAA320
			triangle nut with collar	P511AAA052	P511AAA321
			wing nut	P511AAA052	P511AAA324
			pin	P511AAA002	P511AAA098
			clevis pin	P511AAA098	P511AAA355
			clevis pin with head	P511AAA355	P511AAA255
			clevis pin without head	P511AAA355	P511AAA334
			grooved pin	P511AAA098	P511AAA356
			grooved pin with countersunk head	P511AAA356	P511AAA260
			grooved pin with round head	P511AAA356	P511AAA259
			grooved pin, full-length parallel grooved,with chamfer	P511AAA356	P511AAA258
			grooved pin, full-length parallel grooved,with pilot	P511AAA356	P511AAA257
			grooved pin, full-length taper grooved	P511AAA356	P511AAA278
			grooved pin, half-length centre grooved	P511AAA356	P511AAA335
			grooved pin, half-length reverse taper grooved	P511AAA356	P511AAA265
			grooved pin, half-length taper grooved	P511AAA356	P511AAA337
			grooved pin, one-third-length centre grooved	P511AAA356	P511AAA336

Classification Structure				SuperClass	Code
			parallel pin	P511AAA098	P511AAA252
			parallel pin with internal thread	P511AAA252	P511AAA253
			split pin	P511AAA098	P511AAA248
			spring pin	P511AAA098	P511AAA357
			spring-type straight pin, coiled	P511AAA357	P511AAA325
			spring-type straight pin, slotted	P511AAA357	P511AAA261
			taper pin	P511AAA098	P511AAA358
			simple taper pin	P511AAA358	P511AAA249
			taper pin with external thread	P511AAA358	P511AAA251
			taper pin with internal thread	P511AAA358	P511AAA250
			rivet	P511AAA002	P511AAA345
			blind rivet	P511AAA345	P511AAA083
			closed end blind rivet with break pull mandrel and countersunk head	P511AAA083	P511AAA246
			closed end blind rivet with break pull mandrel and protruding head	P511AAA083	P511AAA245
			open end blind rivet with break pull mandrel and countersunk head	P511AAA083	P511AAA082
			open end blind rivet with break pull mandrel and protruding head	P511AAA083	P511AAA093
			full shank rivet	P511AAA345	P511AAA346
			semi tubular rivet	P511AAA345	P511AAA348
			tubular rivet	P511AAA345	P511AAA347
			washer	P511AAA002	P511AAA072

Classification Structure				SuperClass	Code
			lock washer	P511AAA072	P511AAA241
			countersunk lock washer with external teeth	P511AAA241	P511AAA183
			countersunk serrated lock washer with external teeth	P511AAA241	P511AAA218
			lock washer with external teeth	P511AAA241	P511AAA164
			lock washer with internal teeth	P511AAA241	P511AAA168
			serrated lock washer with external teeth	P511AAA241	P511AAA215
			serrated lock washer with internal teeth	P511AAA241	P511AAA216
			plain washer	P511AAA072	P511AAA026
			plain washer with double chamfers	P511AAA026	P511AAA359
			plain washer with outside chamfer	P511AAA026	P511AAA027
			plain washer with square hole	P511AAA026	P511AAA136
			plain washer without chamfer	P511AAA026	P511AAA235
			square washer with round hole	P511AAA026	P511AAA089
			spring washer	P511AAA072	P511AAA236
			conical spring washer	P511AAA236	P511AAA137
			curved spring washer	P511AAA236	P511AAA150
			spring lock washer	P511AAA236	P511AAA148
			wave spring washer	P511AAA236	P511AAA161
			square taper washer	P511AAA072	P511AAA237
			tab washer	P511AAA072	P511AAA240
			external tab washer	P511AAA240	P511AAA221

Classification Structure					SuperClass	Code
				internal tab washer	P511AAA240	P511AAA225
				tab washer with long tab	P511AAA240	P511AAA219
				tab washer with long tab and wing	P511AAA240	P511AAA220
				thread	P511AAA001	P511AAA037
				metric external thread	P511AAA037	P511AAA038
				metric internal thread	P511AAA037	P511AAA344
				tapping screw thread	P511AAA037	P511AAA039
				thread forming screw thread	P511AAA037	P511AAA310
				wood screw thread	P511AAA037	P511AAA041

Annex C (normative)

Fastener class definitions

This annex specifies all definitions of classes defined in this part of ISO 13584.

P511AAA001-1 001

mechanical component for general use

SuperClass:

Definition: at the top of the hierarchy, representing the whole set of the components generally used in mechanical field

AP:

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA002-1 001

fastener

SuperClass: P511AAA001 mechanical component for general use

Definition: covering all types of products designed to mechanically connect two or more structural parts to form a solid or detachable joint or to contribute essentially to establish this function

AP: P511BAA320: fastener material identification

P511BAA322: fastener material name

P511BAA324: fastener coating code

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA003-1 001

externally threaded fastener

SuperClass: P511AAA002 fastener

Definition: fastener with external thread includes bolt, screw and stud

AP:

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA004-1 001

externally threaded fastener component

SuperClass: P511AAA003 externally threaded fastener

Definition: component class which includes all the externally threaded fasteners such as bolt, screw and stud

AP: P511BAA005: manufacturer

P511BAA006: ICD code

P511BAA007: manufacture date

P511BAA008: designation

P511BAA011: EAN/UCC code

P511BAA248: thread tolerance position

P511BAA249: thread tolerance grade

P511BAA256: thread tolerance class

P511BAA319: organization identifier of manufacturer

P511BAA321: steel fastener property class

P511BAA323: stainless steel fastener property class

P511BAA340: thread size

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA005-1 001

metric threaded bolt/screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: headed externally threaded fastener with a cylindrical shank, which may be partly or fully threaded and the head may be furnished with a driving feature

AP: P511BAA103: head shape name

P511BAA104: head shape picture

P511BAA105: shank shape name

P511BAA106: shank shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA109: internal drive shape name

P511BAA110: internal drive shape picture

P511BAA243: head properties

P511BAA244: shank properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA247: internal drive properties

P511BAA303: type of head

P511BAA305: type of shank

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA326: product grade

SSP: P511BAA303: type of head

P511BAA305: type of shank

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA006-1 001

end of thread forming screw

SuperClass: P511AAA028 end

Definition: the end of a screw which is able to form its own mating thread

AP:

SDD: ISO 1891:1979 clause 27.1

SD: P511DAA006

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA007-1 001

externally threaded fastener feature

SuperClass: P511AAA003 externally threaded fastener

Definition: feature class describing geometry features for externally threaded fasteners

AP:

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA008-1 001

head

SuperClass: P511AAA007 externally threaded fastener feature

Definition: feature class identifying head geometry features of externally threaded fasteners

AP: P511BAA303: type of head

SSP: P511BAA303: type of head

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA009-1 001

hexagon head

SuperClass: P511AAA008 head

Definition: head shape which is hexagon

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA034: head height

P511BAA041: diameter of washer face or bearing face

SDD: ISO 4016:1999

SD: P511DAA009

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA010-1 001

hexagon head with washer face

SuperClass: P511AAA008 head

Definition: head shape which is hexagon with a washer face at the bearing face

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA034: head height

P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

SDD: ISO 4016:1999

SD: P511DAA010

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA011-1 001

hexagon head with flange

SuperClass: P511AAA008 head

Definition: head shape which is hexagon with a flange at the bearing face, in order to reduce the pressure under the head

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA034: head height

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA044: flange angle

P511BAA045: flange (collar) diameter

SDD: ISO 15071:1999

SD: P511DAA011

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA012-1 001

drilling point of drilling screw

SuperClass: P511AAA028 end

Definition: end of drilling screw having a particular shape which performs the drilling operation

AP: P511BAA093: diameter of drilling point

SDD: ISO 15480:1999

SD: P511DAA012

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA013-1 001

square head with collar

SuperClass: P511AAA008 head

Definition: head shape which is square with a cylindrical collar at the bearing face in order to reduce the pressure under the head

AP: P511BAA032: width across flats

P511BAA033: width across corners

P511BAA034: head height

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA045: flange(collar) diameter
SDD: ISO 1891:1979 clause 3.6
SD: P511DAA013
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA014-1 001

T-head

SuperClass: P511AAA008 head
Definition: head shape which is rectangular and flat and designed to fit in a T-slot and hold against turning
AP: P511BAA034: head height
SDD: ISO 1891:1979 clause 3.10
SD: P511DAA014
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA015-1 001

round head

SuperClass: P511AAA008 head
Definition: head shape which is circular with a domed top surface
AP: P511BAA034: head height
 P511BAA051: head diameter
SDD: ISO 1891:1979 clause 3.11
SD: P511DAA015
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA016-1 001

cheese head

SuperClass: P511AAA008 head
Definition: head shape which is cylindrical or slightly conical with a flat top surface with the upper edge rounded
AP: P511BAA034: head height
 P511BAA051: head diameter
SDD: ISO 1891:1979, ISO 1207:1992
SD: P511DAA016
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA017-1 001

raised cheese head

SuperClass: P511AAA008 head
Definition: head shape which is cylindrical with a domed top surface
AP: P511BAA034: head height
 P511BAA051: head diameter
 P511BAA060: radius of the raised portion of the head
SDD: ISO 1891:1979 clause 3.14
SD: P511DAA017
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA018-1 001

pan head

SuperClass: P511AAA008 head
Definition: head shape which is cylindrical with rounded top surface
AP: P511BAA034: head height
 P511BAA051: head diameter
 P511BAA060: radius of the raised portion of the head
SDD: ISO 1891:1979 clause 3.15, ISO 1580:1994
SD: P511DAA018
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA019-1 001

countersunk head

SuperClass: P511AAA008 head
Definition: head shape which is circular with a conical bearing surface which is able to fit a countersink
AP: P511BAA034: head height
 P511BAA051: head diameter
 P511BAA368: head angle (countersunk angle)
SDD: ISO 1891:1979 clause 3.16, ISO 2009:1994
SD: P511DAA019
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA020-1 001

raised countersunk head

SuperClass: P511AAA008 head
Definition: countersunk head with a domed top surface
AP: P511BAA034: head height
 P511BAA051: head diameter
 P511BAA060: radius of the raised portion of the head
 P511BAA368: head angle (countersunk angle)
 P511BAA376: height of the raised portion of raised countersunk head
SDD: ISO 1891:1979 clause 3.17, ISO 2010:1994
SD: P511DAA020
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA021-1 001

eye shape head

SuperClass: P511AAA008 head
Definition: head has the form of a ring (eye), the axis of which is perpendicular to the bolt axis
AP:
SDD: ISO 1891:1979 clause 19.2
SD: P511DAA021
DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA022-1 001

eyelet shape head

SuperClass: P511AAA008 head

Definition: head shape which is like an open anchor ring, the axis of which is perpendicular to the bolt axis

AP:

SDD: ISO 1891:1979 clause 19.8

SD: P511DAA022

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA023-1 001

square head

SuperClass: P511AAA008 head

Definition: head shape which is square

AP: P511BAA032: width across flats

P511BAA033: width across corners

P511BAA034: head height

SDD: ISO 1891:1979 clause 3.5

SD: P511DAA023

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA024-1 001

shank

SuperClass: P511AAA007 externally threaded fastener feature

Definition: feature class identifying shank geometry features of externally threaded fasteners

AP: P511BAA305: type of shank

SSP: P511BAA305: type of shank

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA025-1 001

shank with square neck

SuperClass: P511AAA024 shank

Definition: shank with square part under the head to prevent rotation

AP: P511BAA067: shank diameter

P511BAA071: square neck width

P511BAA072: square neck length

SDD: ISO 1891:1979 clause 4.6, ISO 8677:1986

SD: P511DAA025

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA026-1 001

plain washer

SuperClass: P511AAA072 washer

Definition: washer with parallel flat surfaces

AP: P511BAA326: product grade

P511BAA337: thickness

SDD: ISO 1891:1979 clause 38.1

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA027-1 001

plain washer with outside chamfer

SuperClass: P511AAA026 plain washer

Definition: plain washer with a chamfer at one of the outer edges

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

SDD: ISO 7090:2000

SD: P511DAA027

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA028-1 001

end

SuperClass: P511AAA007 externally threaded fastener feature

Definition: feature class identifying end geometry features of externally threaded fasteners

AP: P511BAA306: type of end

SSP: P511BAA306: type of end

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA029-1 001

as-rolled end

SuperClass: P511AAA028 end

Definition: end of externally threaded fastener resulting after thread rolling

AP: P511BAA082: incomplete thread length

SDD: ISO 4753:1999

SD: P511DAA029

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA030-1 001

rounded end

SuperClass: P511AAA028 end

Definition: spherically formed shank end

AP: P511BAA082: incomplete thread length

P511BAA084: radius of rounded end

SDD: ISO 4753:1999

SD: P511DAA030

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA031-1 001

chamfered end

SuperClass: P511AAA028 end
Definition: end of externally threaded fastener which has been chamfered before thread rolling
AP: P511BAA082: incomplete thread length
SDD: ISO 4753:1999
SD: P511DAA031
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA032-1 001

cone point

SuperClass: P511AAA028 end
Definition: end of externally threaded fastener having the shape of a cone
AP: P511BAA082: incomplete thread length
SDD: ISO 4753:1999
SD: P511DAA032
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA033-1 001

truncated cone point

SuperClass: P511AAA028 end
Definition: end of externally threaded fastener having the shape of a truncated cone
AP: P511BAA077: diameter of truncated cone point
 P511BAA082: incomplete thread length
SDD: ISO 4753:1999
SD: P511DAA033
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA034-1 001

cup point

SuperClass: P511AAA028 end
Definition: conical indentation at the end of externally threaded fastener which forms a sharp circular edge at the end face
AP: P511BAA078: diameter of cup point
 P511BAA082: incomplete thread length
SDD: ISO 4753:1999
SD: P511DAA034
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA035-1 001

dog point

SuperClass: P511AAA028 end
Definition: cylindrical projection at the end of externally threaded fastener
AP: P511BAA079: length of point
 P511BAA082: incomplete thread length
 P511BAA085: diameter of dog point or flat point
SDD: ISO 4753:1999
SD: P511DAA035

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA036-1 001

scrape point

SuperClass: P511AAA028 end
Definition: particular shape thread end with a cutting edge
AP: P511BAA080: diameter of scrape point
 P511BAA081: length of the cone part of the scrape point
 P511BAA083: length of the scrape point
SDD: ISO 4753:1999
SD: P511DAA036
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA037-1 001

thread

SuperClass: P511AAA001 mechanical component for general use
Definition: feature class identifying thread types of mechanical components for general use
AP: P511BAA024: pitch
 P511BAA307: type of thread
SSP: P511BAA307: type of thread
SDD: ISO 1891:1979
SD:
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA038-1 001

metric external thread

SuperClass: P511AAA037 thread
Definition: external thread for general use defined by the metric unit system
AP: P511BAA327: type of pitch
 P511BAA346: major diameter of external thread
 P511BAA347: pitch diameter of external thread
 P511BAA348: minor diameter of external thread
SDD: ISO 68-1:1998
SD: P511DAA038
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA039-1 001

tapping screw thread

SuperClass: P511AAA037 thread
Definition: external thread designed to form its mating thread in thin metallic materials
AP: P511BAA349: outer diameter
 P511BAA350: core diameter
SDD: ISO 1478:1999
SD: P511DAA039

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA041-1 001

wood screw thread

SuperClass: P511AAA037 thread

Definition: external thread designed to form its mating thread in wooden materials

AP: P511BAA349: outer diameter

P511BAA350: core diameter

SDD: ISO 1891:1979 clause 2.4

SD: P511DAA041

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA042-1 001

internal drive

SuperClass: P511AAA007 externally threaded fastener feature

Definition: driving feature classes like socket, slot or recess at the head or at one end of externally threaded fasteners on which the driving tool is acting

AP: P511BAA308: type of internal drive

SSP: P511BAA308: type of internal drive

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA043-1 001

hexagon socket

SuperClass: P511AAA042 internal drive

Definition: internal drive feature with the shape of a hexagonal indentation

AP: P511BAA032: width across flats

P511BAA098: hexagon socket width across corners

P511BAA101: penetration depth

SDD: ISO 1891:1979 clause 6.6, ISO 4762:2004

SD: P511DAA043

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA044-1 001

slot

SuperClass: P511AAA042 internal drive

Definition: internal drive feature with the shape of a rectangular groove perpendicular to the axis of the externally threaded fastener

AP: P511BAA052: slot width

P511BAA101: penetration depth

SDD: ISO 1891:1979 clause 6.11, ISO 7434:1983

SD: P511DAA044

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA045-1 001

cross recess (type H)

SuperClass: P511AAA042 internal drive

Definition: internal drive with the shape of a cross like indentation where the faces on which the tool forces apply are conical (type H)

AP: P511BAA101: penetration depth

P511BAA102: recess number

SDD: ISO 4757:1983

SD: P511DAA045

Note: as a result of the conical faces an axial force appears which tends to push the tool out of the cross recess but, on the other hand, the cross recess type H is insensible to alignment of screw and driving tool

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA046-1 001

head with tommy

SuperClass: P511AAA008 head

Definition: head with a tommy bar inserted in a cylindrical hole, perpendicular to the bolt or screw axis

AP:

SDD: ISO 1891:1979 clause 6.15

SD: P511DAA046

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA047-1 001

hexagon head bolt with flange, full shank

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with hexagon head with a flange and full shank

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

P511BAA383: transition diameter of axial undercut

SDD: ISO 4162:1990

SD: P511DAA047

Note: ISO 15071:1999 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA049-1 001

stud

SuperClass: P511AAA004 externally threaded fastener component

Definition: headless externally threaded fastener with threads at both ends and an unthreaded shank between the threads

AP: P511BAA028: overall length

P511BAA105: shank shape name

P511BAA106: shank shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA244: shank properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA306: type of end

P511BAA307: type of thread

P511BAA326: product grade

SSP: P511BAA306: type of end

P511BAA307: type of thread

SDD: ISO 1891:1979 clause 21.1

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA050-1 001

hexalobular socket head cap screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cylindrical head with a hexalobular indentation

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14579:2001

SD: P511DAA050

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA051-1 001

cup head square neck bolt

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cup head and a square neck under the head

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 8678:1988

SD: P511DAA051

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA052-1 001

nut

SuperClass: P511AAA002 fastener

Definition: fastener with internal thread enabling it to be screwed onto externally threaded fastener

AP: P511BAA005: manufacturer

P511BAA006: ICD code

P511BAA007: manufacture date

P511BAA008: designation

P511BAA011: EAN/UCC code

P511BAA117: nut height

P511BAA246: thread properties

P511BAA248: thread tolerance position

P511BAA249: thread tolerance grade

P511BAA256: thread tolerance class

P511BAA307: type of thread

P511BAA319: organization identifier of manufacturer

P511BAA321: steel fastener property class

P511BAA323: stainless steel fastener property class

P511BAA326: product grade

P511BAA327: type of pitch

P511BAA340: thread size

P511BAA387: nut name

P511BAA388: nut picture

SSP: P511BAA307: type of thread

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA071-1 001

waisted stud

SuperClass: P511AAA049 stud

Definition: stud with shank diameter less than the minor thread diameter

AP: P511BAA025: thread length of stud metal end

P511BAA030: length of thread run-out

P511BAA371: stud length

SDD: ISO 1891:1979 clause 21.3

SD: P511DAA071

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA072-1 001

washer

SuperClass: P511AAA002 fastener

Definition: fastener used in bolted connections in order to reduce pressure on the bearing surface

AP: P511BAA005: manufacturer

P511BAA006: ICD code

P511BAA007: manufacture date

P511BAA008: designation

P511BAA011: EAN/UCC code

P511BAA319: organization identifier of manufacturer
P511BAA335: washer name
P511BAA340: thread size
P511BAA342: core hardness
P511BAA343: surface hardness
P511BAA344: steel fastener hardness class
P511BAA345: hardness test method
identification
P511BAA351: washer picture
P511BAA417: stainless steel fastener
hardness class

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA081-1 001

hexagon head bolt with flange with fine pitch thread, full shank

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with hexagon head with a flange and full shank and with fine pitch thread

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length
P511BAA087: transition length
P511BAA357: transition diameter
P511BAA369: length of bolt/screw (flat seating head)

P511BAA382: depth of axial undercut

P511BAA383: transition diameter of axial undercut

SDD: ISO 15072:1999

SD: P511DAA081

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA082-1 001

open end blind rivet with break pull mandrel and countersunk head

SuperClass: P511AAA083 blind rivet

Definition: blind rivet with an open end and a break pull mandrel and countersunk head

AP: P511BAA191: blind length

P511BAA411: length of rivet with flat seating head (protruding head)

SDD: ISO 15978:2002

SD: P511DAA082

Remark: ISO 15980:2002, ISO 15982:2002, ISO 15984:2002, ISO 16585:2002 belong to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA083-1 001

blind rivet

SuperClass: P511AAA345 rivet

Definition: rivet which can be set even though the access for its installation and setting may be limited to one side only

AP: P511BAA013: body material

P511BAA014: mandrel material

P511BAA189: mandrel protrusion

P511BAA190: mandrel diameter

P511BAA254: tensile load

P511BAA255: mandrel break load

P511BAA328: rivet head name

P511BAA329: rivet head picture

P511BAA415: rivet diameter

SDD: ISO 14588:2000

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA089-1 001

square washer with round hole

SuperClass: P511AAA026 plain washer

Definition: plain washer with square outer shape and central round hole

AP: P511BAA334: hole diameter

SDD: ISO 1891:1979 clause 38.3

SD: P511DAA089

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA091-1 001

stud with full shank

SuperClass: P511AAA049 stud

Definition: stud with shank diameter equal to the nominal thread diameter

AP: P511BAA025: thread length of stud metal end

P511BAA030: length of thread run-out

P511BAA371: stud length

P511BAA386: thread length of nut end

SDD: ISO 1891:1979 clause 21.1

SD: P511DAA091

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA093-1 001

open end blind rivet with break pull mandrel and protruding head

SuperClass: P511AAA083 blind rivet

Definition: blind rivet with an open end and a break pull mandrel and protruding head

AP: P511BAA191: blind length

P511BAA412: length of the rivet with countersunk head

SDD: ISO 15977:2002

SD: P511DAA093

Remark: ISO 15979:2002, ISO 15981:2002, ISO

15983:2002,ISO 16583:2002 belong to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA098-1 001

pin

SuperClass: P511AAA002 fastener

Definition: cylindrical or conical fasteners which are fixed in the components which they are connecting by a "interference fit" or by end features like head and split pin or by split pin on both ends

AP: P511BAA005: manufacturer

P511BAA006: ICD code

P511BAA007: manufacture date

P511BAA008: designation

P511BAA011: EAN/UCC code

P511BAA319: organization identifier of manufacturer

P511BAA342: core hardness

P511BAA343: surface hardness

P511BAA345: hardness test method

identification

P511BAA389: pin head name

P511BAA390: pin head picture

P511BAA391: pin shank name

P511BAA392: pin shank picture

P511BAA393: pin end name

P511BAA394: pin end picture

P511BAA414: pin diameter

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA099-1 001

stud bolt

SuperClass: P511AAA004 externally threaded fastener component

Definition: fastener which is threaded over its total length

AP: P511BAA246: thread properties

P511BAA307: type of thread

P511BAA326: product grade

P511BAA401: length of stud bolt

SDD: ISO 1891:1979 clause 21.6

SD: P511DAA099

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA119-1 001

triangle head with collar

SuperClass: P511AAA008 head

Definition: head shape which is triangle with a cylindrical collar at the bearing face,in order to reduce the pressure under the head

AP: P511BAA034: head height

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA045: flange(collar) diameter

SDD: ISO 1891:1979 clause 3.7

SD: P511DAA119

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA120-1 001

octagonal head

SuperClass: P511AAA008 head

Definition: head shape which is octagonal

AP: P511BAA033: width across corners

P511BAA034: head height

SDD: ISO 1891:1979 clause 3.8

SD: P511DAA120

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA121-1 001

12 point flange head

SuperClass: P511AAA008 head

Definition: head shape which is like a 12 point star with a flange at the side of the bearing face in order to reduce the pressure under the head

AP: P511BAA034: head height

SDD: ISO 1891:1979 clause 3.9

SD: P511DAA121

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA122-1 001

cylindrical head

SuperClass: P511AAA008 head

Definition: head shape which is cylindrical

AP: P511BAA034: head height

P511BAA051: head diameter

SDD: ISO 4762:2004

SD: P511DAA122

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA125-1 001

full shank

SuperClass: P511AAA024 shank

Definition: shank with nominal diameter equal to the nominal thread diameter

AP: P511BAA054: shank length

P511BAA067: shank diameter

SDD: ISO 4014:1999

SD: P511DAA125

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA126-1 001

reduced shank

SuperClass: P511AAA024 shank

Definition: shank with diameter approximately equal to the pitch diameter of the thread

AP: P511BAA054: shank length

P511BAA067: shank diameter

SDD: ISO 4162:1990

SD: P511DAA126

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA127-1 001

waisted shank

SuperClass: P511AAA024 shank

Definition: shank with diameter less than the minor diameter of the thread

AP:

SDD: ISO 1891:1979 clause 7.8

SD: P511DAA127

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA128-1 001

fit shank

SuperClass: P511AAA024 shank

Definition: shank with diameter greater than the nominal thread diameter

AP:

SDD: ISO 1891:1979 clause 7.4

SD: P511DAA128

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA129-1 001

shoulder

SuperClass: P511AAA024 shank

Definition: increased plain shank with a face, which is jammed against the surface of the part to be fixed

AP: P511BAA038: radius of the undercut under head

P511BAA067: shank diameter

P511BAA365: transition diameter of shoulder

SDD: ISO 7379:1983

SD: P511DAA129

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA130-1 001

cone end (type C) of tapping screw

SuperClass: P511AAA028 end

Definition: self-tapping screw end with the shape of a cone, type C

AP: P511BAA096: length of tapping screw end

SDD: ISO 1478:1999

SD: P511DAA130

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA131-1 001

flat point

SuperClass: P511AAA028 end

Definition: flat end of externally threaded fastener

AP: P511BAA082: incomplete thread length

P511BAA085: diameter of dog point or flat point

SDD: ISO 4753:1999

SD: P511DAA131

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA132-1 001

flat end (type F) of tapping screw

SuperClass: P511AAA028 end

Definition: flat end of self-tapping screw, type F

AP: P511BAA090: diameter of flat end

P511BAA096: length of tapping screw end

SDD: ISO 1478:1999

SD: P511DAA132

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA136-1 001

plain washer with square hole

SuperClass: P511AAA026 plain washer

Definition: plain washer with round outer shape and central square hole

AP: P511BAA333: outside diameter

SDD: ISO 1891:1979 clause 38.4

SD: P511DAA136

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA137-1 001

conical spring washer

SuperClass: P511AAA236 spring washer

Definition: spring washer with a conical shape

AP: P511BAA326: product grade

SDD: ISO 1891:1979 clause 39.6

SD: P511DAA137

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA138-1 001

rounded end (type R) of tapping screw

SuperClass: P511AAA028 end

Definition: self-tapping screw end with the shape of a rounded cone, type R

AP: P511BAA096: length of tapping screw end

SDD: ISO 1478:1999

SD: P511DAA138

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA139-1 001

slotted pan head tapping screw with a flat end**SuperClass:** P511AAA196 tapping screw**Definition:** self-tapping screw with a slotted pan head and flat end**AP:** P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1481:1983**SD:** P511DAA139**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA140-1 001****triangle socket****SuperClass:** P511AAA042 internal drive**Definition:** internal drive feature with the shape of triangle socket**AP:** P511BAA101: penetration depth**SDD:** ISO 1891:1979 clause 6.7**SD:** P511DAA140**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA141-1 001****square socket****SuperClass:** P511AAA042 internal drive**Definition:** internal drive feature with the shape of square socket**AP:** P511BAA101: penetration depth**SDD:** ISO 1891:1979 clause 6.8**SD:** P511DAA141**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA142-1 001****six-spline socket****SuperClass:** P511AAA042 internal drive**Definition:** internal drive feature with the shape of a six-spline socket**AP:** P511BAA101: penetration depth**SDD:** ISO 1891:1979 clause 6.9**SD:** P511DAA142**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA143-1 001****12 point socket****SuperClass:** P511AAA042 internal drive**Definition:** internal drive feature with the shape of a 12 point socket**AP:** P511BAA101: penetration depth**SDD:** ISO 1891:1979 clause 6.10**SD:** P511DAA143**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA144-1 001****cross recessed (type Z) pan head tapping screw with a flat end****SuperClass:** P511AAA196 tapping screw**Definition:** self-tapping screw with a pan head with cross recessed (type Z) and with a flat end**AP:** P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7049:1983**SD:** P511DAA144**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA146-1 001****hexagon head bolt with flange with fine pitch thread, reduced shank****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener with hexagon head bolt with a flange and reduced shank with fine pitch thread**AP:** P511BAA047: radius of curvature under head

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

P511BAA383: transition diameter of axial undercut

SDD: ISO 15072:1999**SD:** P511DAA146**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA147-1 001****cross hole****SuperClass:** P511AAA042 internal drive**Definition:** internal drive feature with the shape of a cross hole**AP:****SDD:** ISO 1891:1979 clause 6.18**SD:** P511DAA147**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA148-1 001****spring lock washer****SuperClass:** P511AAA236 spring washer**Definition:** spring washer with the shape of an open ring, which is bent in axial direction

AP:

SDD: ISO 1891:1979 clause 39.1

SD: P511DAA148

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA150-1 001

curved spring washer

SuperClass: P511AAA236 spring washer

Definition: spring washer with the shape of a plain washer, which is bent in axial direction

AP:

SDD: ISO 1891:1979 clause 39.4

SD: P511DAA150

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA156-1 001

hexagon head bolt

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a hexagon head and with plain shank

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 4014:1999

SD: P511DAA156

Note: ISO 7411:1984, ISO 7412:1984 and ISO 4016:1999 belong to the same simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA157-1 001

hexagon head bolt with flange, reduced shank

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with hexagon head with a flange and reduced shank

AP: P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

P511BAA383: transition diameter of axial undercut

SDD: ISO 4162:1990

SD: P511DAA157

Remark: ISO 15071:1999 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA158-1 001

cup head square neck bolt with large head

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a large cup head and a square neck

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 8677:1986

SD: P511DAA158

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA159-1 001

square head bolt

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a square head

AP: P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1891:1979

SD: P511DAA159

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA160-1 001

square head bolt with collar

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a square head with collar

AP: P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1891:1979

SD: P511DAA160

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA161-1 001

wave spring washer

SuperClass: P511AAA236 spring washer

Definition: spring washer with the shape of a plain washer, which is bent to present more than one wave

AP:**SDD:** ISO 1891:1979 clause 39.5**SD:** P511DAA161**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA162-1 001****triangle head bolt****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener with a triangle head**AP:** P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1891:1979**SD:** P511DAA162**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA163-1 001****octagon head bolt****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener with an octagon head**AP:** P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1891:1979**SD:** P511DAA163**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA164-1 001****lock washer with external teeth****SuperClass:** P511AAA241 lock washer**Definition:** lock washer with teeth at the outside**AP:****SDD:** ISO 1891:1979 clause 39.7**SD:** P511DAA164**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA166-1 001****T-head bolt****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener

with a T-head designed to fit in a T-slot

AP: P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1891:1979**SD:** P511DAA166**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA168-1 001****lock washer with internal teeth****SuperClass:** P511AAA241 lock washer**Definition:** lock washer with teeth at the inside**AP:****SDD:** ISO 1891:1979 clause 39.8**SD:** P511DAA168**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA169-1 001****hexagon head screw****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener with a hexagon head threaded up to the head**AP:** P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 4017:1999**SD:** P511DAA169**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA170-1 001****hexagon socket head cap screw****SuperClass:** P511AAA005 metric threaded bolt/screw**Definition:** metric externally threaded fastener with a high cylindrical head with a hexagon socket**AP:** P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 4762:2004**SD:** P511DAA170**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511AAA171-1 001**

hexagon socket head shoulder screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cylindrical head with a hexagon socket and with a shoulder under the head

AP: P511BAA012: thread length

P511BAA020: minimum diameter of radial undercut

P511BAA022: width of radial undercut

P511BAA037: width of radial undercut in a shank

P511BAA048: minimum diameter of radial undercut in a shank

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

P511BAA383: transition diameter of axial undercut

SDD: ISO 7379:1983

SD: P511DAA171

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA172-1 001

hexagon socket button head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a button head with a hexagon socket

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7380:2004

SD: P511DAA172

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA173-1 001

hexagon socket countersunk head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a countersunk head with hexagon socket

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA370: length of countersunk bolt/screw

SDD: ISO 10642:2004

SD: P511DAA173

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA174-1 001

hexalobular socket cheese head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cheese head with hexalobular socket

AP: P511BAA030: length of thread run-out

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14580:2001

SD: P511DAA174

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA175-1 001

hexalobular socket pan head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a pan head with hexalobular socket

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14583:2001

SD: P511DAA175

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA176-1 001

hexalobular socket raised countersunk head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a raised countersunk head with hexalobular socket

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 14584:2001

SD: P511DAA176

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA177-1 001

slotted cheese head screw

SuperClass: P511AAA005 metric threaded

bolt/screw

Definition: metric externally threaded fastener with a slotted cheese head

AP: P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1207:1992

SD: P511DAA177

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA178-1 001

slotted pan head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a slotted pan head

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1580:1994

SD: P511DAA178

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA179-1 001

slotted countersunk flat head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a flat slotted countersunk head

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk

bolt/screw

SDD: ISO 2009:1994

SD: P511DAA179

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA180-1 001

slotted raised countersunk head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener

with a slotted raised countersunk head

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk

bolt/screw

SDD: ISO 2010:1994

SD: P511DAA180

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA181-1 001

cross recessed (type H) cheese head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cross recessed cheese head (type H)

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7048:1998

SD: P511DAA181

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA182-1 001

cross recessed (type H) pan head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cross recessed pan head (type H)

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7045:1994

SD: P511DAA182

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA183-1 001

countersunk lock washer with external teeth

SuperClass: P511AAA241 lock washer

Definition: lock washer with external teeth and a conical shape to fit into a countersink

AP:

SDD: ISO 1891:1979 clause 39.9
SD: P511DAA183
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA184-1 001

countersunk flat head screw with cross recess (type H)

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a flat countersunk head with cross recess (type H)

AP: P511BAA012: thread length
P511BAA030: length of thread run-out
P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk

bolt/screw

SDD: ISO 7046-1:1994

SD: P511DAA184

Remark: ISO 7046-2:1994 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA185-1 001

raised countersunk head screw with cross recess (type H)

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a raised countersunk head and cross recess (type H)

AP: P511BAA012: thread length
P511BAA030: length of thread run-out
P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk

bolt/screw

SDD: ISO 7047:1994

SD: P511DAA185

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA186-1 001

set screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: fully externally threaded fastener with a driving feature at one end, whereas the other end is designed to apply pressure on the part to be fixed

AP: P511BAA107: end shape name
P511BAA108: end shape picture

P511BAA109: internal drive shape name
P511BAA110: internal drive shape picture
P511BAA245: end properties
P511BAA246: thread properties
P511BAA247: internal drive properties

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA326: product grade

P511BAA378: diameter of face

P511BAA400: length of set screw

SSP: P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA187-1 001

slotted headless screw with shank

SuperClass: P511AAA354 headless screw with shank

Definition: headless screw with shank with a slot as internal drive

AP: P511BAA402: length of headless screw with shank

SDD: ISO 2342:1972

SD: P511DAA187

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA188-1 001

hexagon socket set screw with flat point

SuperClass: P511AAA186 set screw

Definition: set screw with a hexagon socket and flat point

AP:

SDD: ISO 4026:2003

SD: P511DAA188

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA189-1 001

hexagon socket set screw with cone point

SuperClass: P511AAA186 set screw

Definition: set screw with a hexagon socket and a cone point

AP:

SDD: ISO 4027:2003

SD: P511DAA189

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA190-1 001

hexagon socket set screw with dog point

SuperClass: P511AAA186 set screw

Definition: set screw with a hexagon socket and a dog point

AP:

SDD: ISO 4028:2003

SD: P511DAA190

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA191-1 001

hexagon socket set screw with cup point

SuperClass: P511AAA186 set screw

Definition: set screw with a hexagon socket and a cup point

AP:

SDD: ISO 4029:2003

SD: P511DAA191

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA192-1 001

slotted set screw with cone point

SuperClass: P511AAA186 set screw

Definition: slotted set screw with a cone point

AP:

SDD: ISO 7434:1983

SD: P511DAA192

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA193-1 001

slotted set screw with flat point

SuperClass: P511AAA186 set screw

Definition: slotted set screw with a flat point

AP:

SDD: ISO 4766:1983

SD: P511DAA193

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA194-1 001

slotted set screw with long dog point

SuperClass: P511AAA186 set screw

Definition: slotted set screw with a long dog point

AP:

SDD: ISO 7435:1983

SD: P511DAA194

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA195-1 001

slotted set screw with cup point

SuperClass: P511AAA186 set screw

Definition: slotted set screw with a cup point

AP:

SDD: ISO 7436:1983

SD: P511DAA195

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA196-1 001

tapping screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: externally threaded fastener with a head including a driving feature and with a self-tapping screw thread which is able to form its own mating thread in the metal part to be fastened

AP: P511BAA103: head shape name

P511BAA104: head shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA109: internal drive shape name

P511BAA110: internal drive shape picture

P511BAA243: head properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA247: internal drive properties

P511BAA303: type of head

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA326: product grade

SSP: P511BAA303: type of head

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA197-1 001

hexagon head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a hexagon head and a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1479:1983

SD: P511DAA197

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA198-1 001

slotted pan head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a slotted pan

head and a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1481:1983

SD: P511DAA198

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA199-1 001

slotted countersunk (flat) head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a slotted countersunk (flat) head and a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 1482:1983

SD: P511DAA199

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA200-1 001

slotted raised countersunk (oval) head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a slotted raised countersunk (oval) head and a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 1483:1983

SD: P511DAA200

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA201-1 001

cross recessed (type H) pan head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a pan head with cross recess (type H) and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7049:1983

SD: P511DAA201

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA202-1 001

hexagon flange head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a hexagon flange head and a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 10509:1992

SD: P511DAA202

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA203-1 001

cross recessed (type H) countersunk head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a countersunk head with cross recess (type H) and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7050:1983

SD: P511DAA203

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA204-1 001

cross recessed (type H) raised countersunk head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a raised countersunk head with cross recess (type H) and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7051:1983

SD: P511DAA204

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA205-1 001

hexagon washer head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a hexagon washer head and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7053:1992

SD: P511DAA205

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA206-1 001

hexalobular socket pan head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a pan head with hexalobular socket and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14585:2001

SD: P511DAA206

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA207-1 001

hexalobular socket countersunk head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a countersunk head with hexalobular socket and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 14586:2001

SD: P511DAA207

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA208-1 001

hexalobular socket raised countersunk head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a raised countersunk head with hexalobular socket and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 14587:2001

SD: P511DAA208

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA209-1 001

wood screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: externally threaded fastener with a head including a driving feature and with a thread, which is able to form its own mating thread in the wooden part to be fastened

AP: P511BAA103: head shape name

P511BAA104: head shape picture

P511BAA105: shank shape name

P511BAA106: shank shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA109: internal drive shape name

P511BAA110: internal drive shape picture

P511BAA243: head properties

P511BAA244: shank properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA247: internal drive properties

P511BAA303: type of head

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA369: length of bolt/screw (flat seating head)

P511BAA370: length of countersunk bolt/screw

SDD: ISO 1891:1979 clause 2.4

SD: P511DAA209

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA210-1 001

drilling screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: externally threaded fastener with a head including a driving feature and a self-tapping screw thread, the end of which is furnished with a drilling point, which is able to drill a hole and to form its own mating thread in metallic materials

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA103: head shape name

P511BAA104: head shape picture

P511BAA105: shank shape name

P511BAA106: shank shape picture
P511BAA107: end shape name
P511BAA108: end shape picture
P511BAA109: internal drive shape name
P511BAA110: internal drive shape picture
P511BAA243: head properties
P511BAA245: end properties
P511BAA246: thread properties
P511BAA247: internal drive properties
P511BAA303: type of head
P511BAA306: type of end
P511BAA307: type of thread
P511BAA308: type of internal drive
P511BAA326: product grade

SSP: P511BAA303: type of head
P511BAA306: type of end
P511BAA307: type of thread
P511BAA308: type of internal drive
SDD: ISO 15480:1999
SD:
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA211-1 001

hexagon washer head drilling screw

SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a hexagon washer head and self-tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 15480:1999
SD: P511DAA211
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA212-1 001

cross recessed (type H) pan head drilling screw

SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a pan head with cross recess (type H) and with self-tapping screw thread
AP: P511BAA357: transition diameter
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 15481:1999
SD: P511DAA212
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA213-1 001

cross recessed (type H) countersunk head drilling screw

SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a countersunk head with cross recess (type H) and with self-

tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA370: length of countersunk bolt/screw
SDD: ISO 15482:1999
SD: P511DAA213
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA214-1 001

cross recessed (type H) raised countersunk drilling screw

SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a raised countersunk head with cross recess (type H) and with self-tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA370: length of countersunk bolt/screw
SDD: ISO 15483:1999
SD: P511DAA214
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA215-1 001

serrated lock washer with external teeth

SuperClass: P511AAA241 lock washer
Definition: lock washer with serrated teeth at the outside
AP:
SDD: ISO 1891:1979 clause 39.10
SD: P511DAA215
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA216-1 001

serrated lock washer with internal teeth

SuperClass: P511AAA241 lock washer
Definition: lock washer with serrated teeth at the inside
AP:
SDD: ISO 1891:1979 clause 39.11
SD: P511DAA216
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA217-1 001

hexagon head with collar

SuperClass: P511AAA008 head
Definition: head shape which is hexagon with a cylindrical collar at the bearing face, in order to reduce the pressure under the head
AP: P511BAA031: wrenching height
P511BAA032: width across flats
P511BAA033: width across corners
P511BAA034: head height
P511BAA042: height of bearing element of a

bolt or screw or nut

P511BAA045: flange(collar) diameter

P511BAA377: radius of curvature at the hexagon / washer junction

SDD: ISO 15480:1999

SD: P511DAA217

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA218-1 001

countersunk serrated lock washer with external teeth

SuperClass: P511AAA241 lock washer

Definition: lock washer with serrated external teeth and a conical shape to fit into a countersink

AP:

SDD: ISO 1891:1979 clause 39.12

SD: P511DAA218

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA219-1 001

tab washer with long tab

SuperClass: P511AAA240 tab washer

Definition: tab washer with a long tab at the outside

AP:

SDD: ISO 1891:1979 clause 40.1

SD: P511DAA219

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA220-1 001

tab washer with long tab and wing

SuperClass: P511AAA240 tab washer

Definition: tab washer with a long tab and a wing at the outside

AP:

SDD: ISO 1891:1979 clause 40.2

SD: P511DAA220

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA221-1 001

external tab washer

SuperClass: P511AAA240 tab washer

Definition: tab washer with a tab at the outside

AP:

SDD: ISO 1891:1979 clause 40.3

SD: P511DAA221

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA222-1 001

hexalobular socket

SuperClass: P511AAA042 internal drive

Definition: internal drive feature with the shape of a hexalobular indentation

AP: P511BAA057: nominal dimension A

P511BAA075: nominal dimension B

P511BAA092: hexalobular socket number

P511BAA101: penetration depth

SDD: ISO 10664:2005

SD: P511DAA222

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA223-1 001

button head

SuperClass: P511AAA008 head

Definition: head shape which is a truncated round head

AP: P511BAA034: head height

P511BAA051: head diameter

SDD: ISO 7380:2004

SD: P511DAA223

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA225-1 001

internal tab washer

SuperClass: P511AAA240 tab washer

Definition: tab washer with a tab at the inside

AP:

SDD: ISO 1891:1979 clause 40.4

SD: P511DAA225

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA226-1 001

hexalobular socket countersunk head

tapping screw with a flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a countersunk head with hexalobular socket and with a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk

bolt/screw

SDD: ISO 14586:2001

SD: P511DAA226

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA227-1 001

slotted hexagon nut

SuperClass: P511AAA052 nut

Definition: hexagon nut with slots at one face perpendicular to the nut axis

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners
P511BAA052: slot width
P511BAA053: bottom thickness
P511BAA114: diameter of the countersink

SDD: ISO 1891:1979 clause 34.1

SD: P511DAA227

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA228-1 001

hexagon nut with flange

SuperClass: P511AAA052 nut

Definition: hexagon nut with a flange at the bearing face

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA044: flange angle

P511BAA045: flange(collar) diameter

P511BAA114: diameter of the countersink

SDD: ISO 4161:1999

SD: P511DAA228

Remark: ISO 21670:2003 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA229-1 001

hexagon castle nut

SuperClass: P511AAA052 nut

Definition: hexagon nut with cylindrical slotted projection

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA050: castle diameter

P511BAA052: slot width

P511BAA053: bottom thickness

P511BAA114: diameter of the countersink

SDD: ISO 1891:1979, ISO 225:1983

SD: P511DAA229

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA232-1 001

round nut with holes in face

SuperClass: P511AAA052 nut

Definition: nut with cylindrical shape with holes as driving feature at one of the flat faces

AP:

SDD: ISO 1891:1979 clause 36.6

SD: P511DAA232

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA235-1 001

plain washer without chamfer

SuperClass: P511AAA026 plain washer

Definition: plain washer with round outer shape

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

SDD: ISO 887:2000

SD: P511DAA235

Remark: ISO 7089:2000, ISO 7091:2000, ISO 7092:2000, ISO 7093-1:2000, ISO 7093-2:2000, ISO 7094:2000, ISO 7415:1984, ISO 8738:1986, ISO 10669:1999, ISO 10673:1998 belong to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA236-1 001

spring washer

SuperClass: P511AAA072 washer

Definition: washer with elastic deformation capability

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

P511BAA336: material thickness

P511BAA338: height of conical spring washer or lock washer

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA237-1 001

square taper washer

SuperClass: P511AAA072 washer

Definition: square washer, the bearing faces of which are not parallel

AP: P511BAA334: hole diameter

P511BAA355: mid height

P511BAA356: side length

SDD: ISO 1891:1979 clause 38.5

SD: P511DAA237

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA238-1 001

hexalobular socket countersunk head

tapping screw with a rounded end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a countersunk head with hexalobular socket and with a rounded end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head
P511BAA370: length of countersunk
bolt/screw

SDD: ISO 14586:2001

SD: P511DAA238

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA239-1 001

hexalobular socket pan head tapping screw with a flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a pan head with hexalobular socket and with a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14585:2001

SD: P511DAA239

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA240-1 001

tab washer

SuperClass: P511AAA072 washer

Definition: washer with tab

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

P511BAA336: material thickness

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA241-1 001

lock washer

SuperClass: P511AAA072 washer

Definition: washer with a particular shape limiting rotation of associated fastener

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

P511BAA336: material thickness

P511BAA338: height of conical spring washer or lock washer

SDD: ISO 1891:1979

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA242-1 001

hexalobular socket pan head tapping screw with a rounded end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a pan head

with hexalobular socket and with a rounded end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 14585:2001

SD: P511DAA242

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA243-1 001

hexagon washer head tapping screw with a flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a hexagon washer head and a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7053:1992

SD: P511DAA243

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA244-1 001

cross recessed (type H) raised countersunk head tapping screw, flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a raised countersunk head with cross recess (type H) and with a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7051:1983

SD: P511DAA244

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA245-1 001

closed end blind rivet with break pull mandrel and protruding head

SuperClass: P511AAA083 blind rivet

Definition: blind rivet with a closed end and with a break pull mandrel and a protruding head

AP: P511BAA411: length of rivet with flat seating head (protruding head)

SDD: ISO 15973:2000

SD: P511DAA245

Remark: ISO 15975:2000, ISO 15976:2000 belong to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA246-1 001

closed end blind rivet with break pull mandrel and countersunk head

SuperClass: P511AAA083 blind rivet

Definition: blind rivet with a closed end and with a break pull mandrel and a countersunk head

AP: P511BAA412: length of the rivet with countersunk head

SDD: ISO 15974:2000

SD: P511DAA246

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA248-1 001

split pin

SuperClass: P511AAA098 pin

Definition: pin with half-round section, folded-up in order to form a split shank

AP: P511BAA193: difference of leg lengths

P511BAA195: eyelet height for split pin

P511BAA196: eyelet diameter for split pin

P511BAA367: length of split pin

SDD: ISO 1234:1997, ISO 8749:1986

SD: P511DAA248

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA249-1 001

simple taper pin

SuperClass: P511AAA358 taper pin

Definition: taper pin without a threaded feature

AP: P511BAA198: large rounded end radius for taper pin

P511BAA199: rounded end height

SDD: ISO 2339:1986, ISO 8749:1986

SD: P511DAA249

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA250-1 001

taper pin with internal thread

SuperClass: P511AAA358 taper pin

Definition: taper pin with internal thread

AP: P511BAA199: rounded end height

P511BAA204: countersink diameter of pin

P511BAA205: internal thread length of pin

P511BAA206: depth of hole

P511BAA207: depth of cylindrical countersink

P511BAA231: crown radius

P511BAA340: thread size

P511BAA362: chamfer angle on the end of pin

SDD: ISO 8736:1986, ISO 8749:1986

SD: P511DAA250

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA251-1 001

taper pin with external thread

SuperClass: P511AAA358 taper pin

Definition: taper pin with external thread

AP: P511BAA208: length of thread run out to cone

P511BAA209: length of threaded portion

P511BAA210: pilot end length

P511BAA211: diameter of pilot end

P511BAA340: thread size

P511BAA362: chamfer angle on the end of pin

P511BAA395: incomplete thread length of pin with external thread

SDD: ISO 8737:1986, ISO 8749:1986

SD: P511DAA251

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA252-1 001

parallel pin

SuperClass: P511AAA098 pin

Definition: pin with cylindrical shape with specified tolerance of diameter

AP: P511BAA217: chamfer length of pin

P511BAA246: thread properties

P511BAA307: type of thread

P511BAA362: chamfer angle on the end of pin

P511BAA408: length of parallel pin

SSP: P511BAA307: type of thread

SDD: ISO 2338:1997, ISO 8749:1986

SD: P511DAA252

Remark: ISO 8734:1997 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA253-1 001

parallel pin with internal thread

SuperClass: P511AAA252 parallel pin

Definition: pin with cylindrical shape and internal thread

AP: P511BAA202: chamfer width for the end with internal thread

P511BAA204: countersink diameter of pin

P511BAA205: internal thread length of pin

P511BAA206: depth of hole

P511BAA207: depth of cylindrical countersink

P511BAA327: type of pitch

P511BAA340: thread size

SDD: ISO 8733:1997, ISO 8749:1986

SD: P511DAA253

Remark: ISO 8735:1997 belongs to this simple

class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA255-1 001

clevis pin with head

SuperClass: P511AAA355 clevis pin

Definition: pin with cylindrical shape and cylindrical head with flat seating bearing face

AP: P511BAA217: chamfer length of pin

P511BAA225: head height of pin

P511BAA229: length from split pin hole to the end

P511BAA230: split pin hole diameter

P511BAA237: head diameter of pin

P511BAA396: chamfer height on the head of pin

P511BAA397: chamfer angle on the head of pin

P511BAA403: length of clevis pin with head

SDD: ISO 2341:1986, ISO 8749:1986

SD: P511DAA255

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA257-1 001

grooved pin, full-length parallel grooved, with pilot

SuperClass: P511AAA356 grooved pin

Definition: pin with full length parallel grooved shank and with a pilot at one end

AP: P511BAA199: rounded end height

P511BAA231: crown radius

P511BAA232: pilot length

P511BAA234: expanded diameter

P511BAA235: groove angle

P511BAA353: shear strength, double

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without head

SDD: ISO 8739:1997, ISO 8749:1986

SD: P511DAA257

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA258-1 001

grooved pin, full-length parallel grooved, with chamfer

SuperClass: P511AAA356 grooved pin

Definition: pin with full length parallel grooved shank and with a chamfer at one end

AP: P511BAA199: rounded end height

P511BAA231: crown radius

P511BAA234: expanded diameter

P511BAA235: groove angle

P511BAA241: height of crown

P511BAA242: convexity height

P511BAA353: shear strength, double

P511BAA362: chamfer angle on the end of pin

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without head

SDD: ISO 8740:1997, ISO 8749:1986

SD: P511DAA258

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA259-1 001

grooved pin with round head

SuperClass: P511AAA356 grooved pin

Definition: pin with a grooved shank and a round head

AP: P511BAA217: chamfer length of pin

P511BAA225: head height of pin

P511BAA234: expanded diameter

P511BAA235: groove angle

P511BAA237: head diameter of pin

P511BAA362: chamfer angle on the end of pin

P511BAA398: grooving angle of grooved pin

P511BAA406: length of grooved pin with flat seating head

SDD: ISO 8746:1997, ISO 8749:1986

SD: P511DAA259

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA260-1 001

grooved pin with countersunk head

SuperClass: P511AAA356 grooved pin

Definition: pin with a grooved shank and a countersunk head

AP: P511BAA217: chamfer length of pin

P511BAA234: expanded diameter

P511BAA235: groove angle

P511BAA237: head diameter of pin

P511BAA362: chamfer angle on the end of pin

P511BAA398: grooving angle of grooved pin

P511BAA399: head angle of grooved pin with countersunk head

P511BAA407: length of grooved pin with countersunk head

SDD: ISO 8747:1997, ISO 8749:1986

SD: P511DAA260

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA261-1 001

spring-type straight pin, slotted

SuperClass: P511AAA357 spring pin

Definition: spring pin with hollow cylinder shape and with a slot in axial direction

AP: P511BAA239: inner diameter
SD: P511DAA261
Remark: ISO 8752:1997, ISO 8749:1986, ISO 13337:1997 belong to this simple class
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA265-1 001
grooved pin, half-length reverse taper grooved
SuperClass: P511AAA356 grooved pin
Definition: pin with a half length reverse taper grooved shank
AP: P511BAA199: rounded end height
P511BAA231: crown radius
P511BAA234: expanded diameter
P511BAA398: grooving angle of grooved pin
P511BAA405: length of grooved pin without head
SDD: ISO 8741:1997, ISO 8749:1986
SD: P511DAA265
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA267-1 001
cross recessed (type Z) raised countersunk head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a raised countersunk head with cross recess (type Z) and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 7051:1983
SD: P511DAA267
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA268-1 001
cross recessed (type Z) countersunk head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a countersunk head with cross recess (type Z) and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 7050:1983
SD: P511DAA268
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA269-1 001
cross recessed (type H) countersunk head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a countersunk head with cross recess (type H) and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 7050:1983
SD: P511DAA269
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA270-1 001
cross recessed (type H) pan head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a pan head with cross recess (type H) and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA357: transition diameter
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 7049:1983
SD: P511DAA270
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA271-1 001
hexagon flange head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a hexagon flange head and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 10509:1992
SD: P511DAA271
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA272-1 001
cross recess (type Z)
SuperClass: P511AAA042 internal drive
Definition: internal drive with the shape of a cross like indentation where the faces on which the tool forces apply are perpendicular to the

driving force(type Z)

AP: P511BAA101: penetration depth

P511BAA102: recess number

SDD: ISO 4757:1983

SD: P511DAA272

Note: the cross recess type Z does not allow disalignment of screw and driving tool

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA278-1 001

grooved pin, full-length taper grooved

SuperClass: P511AAA356 grooved pin

Definition: pin with a taper grooved shank, and the groove length equals to full length of shank

AP: P511BAA199: rounded end height

P511BAA234: expanded diameter

P511BAA353: shear strength,double

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without head

SDD: ISO 8744:1997, ISO 8749:1986

SD: P511DAA278

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA279-1 001

cross recessed (type Z) cheese head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cheese head with cross recess (type Z)

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7048:1998

SD: P511DAA279

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA280-1 001

cross recessed (type Z) pan head screw

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a pan head with cross recess (type Z)

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 7045:1994

SD: P511DAA280

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA281-1 001

countersunk flat head screw with cross recess (type Z)

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a countersunk flat head with cross recess (type Z)

AP: P511BAA012: thread length

P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7046-1:1994

SD: P511DAA281

Remark: ISO 7046-2:1994 belongs to this simple class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA282-1 001

raised countersunk head screw with cross recess (type Z)

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a raised countersunk head with cross recess (type Z)

AP: P511BAA030: length of thread run-out

P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7047:1994

SD: P511DAA282

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA283-1 001

cross recessed (type Z) pan head tapping screw with a cone end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a pan head with cross recess (type Z) and with a cone end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 7049:1983
SD: P511DAA283
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA284-1 001
cross recessed (type Z) countersunk head tapping screw with a cone end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a countersunk head with cross recess (type Z) and with a cone end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 7050:1983
SD: P511DAA284
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA285-1 001
cross recessed (type Z) raised countersunk head tapping screw with a cone end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a raised countersunk head with cross recess (type Z) and with a cone end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 7051:1983
SD: P511DAA285
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA286-1 001
cross recessed (type Z) pan head drilling screw with tapping screw thread
SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a pan head with a cross recess (type Z) and with self-tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA357: transition diameter
P511BAA369: length of bolt/screw (flat seating head)
SDD: ISO 15481:1999
SD: P511DAA286
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA287-1 001
cross recessed (type Z) countersunk head drilling screw
SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a countersunk head with a cross recess (type Z) and with self-tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA370: length of countersunk bolt/screw
SDD: ISO 15482:1999
SD: P511DAA287
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA288-1 001
cross recessed (type Z) raised countersunk head drilling screw
SuperClass: P511AAA210 drilling screw
Definition: drilling screw with a raised countersunk head with a cross recess (type Z) and with self-tapping screw thread
AP: P511BAA069: minimum clamp length
P511BAA370: length of countersunk bolt/screw
SDD: ISO 15483:1999
SD: P511DAA288
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA289-1 001
slotted raised countersunk(oval) head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a slotted raised countersunk(oval) head and a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head
P511BAA370: length of countersunk bolt/screw
SDD: ISO 1483:1983
SD: P511DAA289
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA290-1 001
slotted countersunk(flat) head tapping screw with a flat end
SuperClass: P511AAA196 tapping screw
Definition: self-tapping screw with a slotted countersunk head with hexalobular socket and with a flat end
AP: P511BAA046: distance from the last full form thread to the head bearing face
P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 1482:1983

SD: P511DAA290

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA291-1 001

hexalobular socket raised countersunk head tapping screw with a flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a raised countersunk head with hexalobular socket and with a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 14587:2001

SD: P511DAA291

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA292-1 001

hexalobular socket raised countersunk head tapping screw with a rounded end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a raised countersunk head with hexalobular socket and with a rounded end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA370: length of countersunk bolt/screw

SDD: ISO 14587:2001

SD: P511DAA292

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA293-1 001

hexagon head tapping screw with a flat end

SuperClass: P511AAA196 tapping screw

Definition: self-tapping screw with a hexagon head and a flat end

AP: P511BAA046: distance from the last full form thread to the head bearing face

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 1479:1983

SD: P511DAA293

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA309-1 001

thread forming screw

SuperClass: P511AAA004 externally threaded fastener component

Definition: externally threaded fastener with a thread which is able to form an internal metric thread in the metallic parts to be fastened

AP: P511BAA103: head shape name

P511BAA104: head shape picture

P511BAA105: shank shape name

P511BAA106: shank shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA109: internal drive shape name

P511BAA110: internal drive shape picture

P511BAA243: head properties

P511BAA244: shank properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA247: internal drive properties

P511BAA303: type of head

P511BAA305: type of shank

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA369: length of bolt/screw (flat seating head)

P511BAA370: length of countersunk bolt/screw

SDD: ISO 7085:1999

SD:

Remark: ISO 7085:1999 belongs to this class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA310-1 001

thread forming screw thread

SuperClass: P511AAA037 thread

Definition: thread designed to form its own mating metric screw thread in metallic parts

AP: P511BAA349: outer diameter

P511BAA350: core diameter

SDD: ISO 1891:1979 clause 27.1

SD: P511DAA310

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA311-1 001

cap nut

SuperClass: P511AAA052 nut

Definition: hexagon nut closed at one side by a flat cap

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

SDD: ISO 1891:1979 clause 35.2

SD: P511DAA311

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA312-1 001

domed cap(acorn) nut

SuperClass: P511AAA052 nut

Definition: hexagon nut closed at one side by a domed cap

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA416: thread length of nut

SDD: ISO 1891:1979 clause 35.1

SD: P511DAA312

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA313-1 001

hexagon nut (style 1)

SuperClass: P511AAA052 nut

Definition: nut with a hexagon shape and with a height according to style 1

AP: P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

SDD: ISO 4032:1999

SD: P511DAA313

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA314-1 001

hexagon nut with collar

SuperClass: P511AAA052 nut

Definition: hexagon nut with a cylindrical collar

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA045: flange(collar) diameter

P511BAA114: diameter of the countersink

SDD: ISO 1891:1979 clause 28.3

SD: P511DAA314

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA315-1 001

round nut with holes in side

SuperClass: P511AAA052 nut

Definition: round nut with holes on the circumference in radial direction

AP:

SDD: ISO 1891:1979 clause 36.5

SD: P511DAA315

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA316-1 001

round nut with slot in face

SuperClass: P511AAA052 nut

Definition: round nut with a slot in the face opposite to the bearing face

AP:

SDD: ISO 1891:1979 clause 36.3

SD: P511DAA316

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA317-1 001

round nut with slots in side

SuperClass: P511AAA052 nut

Definition: round nut with slots on the circumference

AP:

SDD: ISO 1891:1979 clause 36.4

SD: P511DAA317

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA318-1 001

round nut with knurl

SuperClass: P511AAA052 nut

Definition: round nut with knurled circumference

AP:

SDD: ISO 1891:1979 clause 36.2

SD: P511DAA318

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA319-1 001

square nut

SuperClass: P511AAA052 nut

Definition: nut with square shape

AP: P511BAA033: width across corners

SDD: ISO 1891:1979 clause 29.1

SD: P511DAA319

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA320-1 001

square nut with collar

SuperClass: P511AAA052 nut

Definition: square nut with a collar

AP: P511BAA032: width across flats

P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

SDD: ISO 1891:1979 clause 29.4

SD: P511DAA320

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA321-1 001

triangle nut with collar

SuperClass: P511AAA052 nut

Definition: triangle nut with a collar

AP: P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

SDD: ISO 1891:1979 clause 30.1

SD: P511DAA321

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA322-1 001

pentagon nut

SuperClass: P511AAA052 nut

Definition: nut with pentagon shape

AP:

SDD: ISO 1891:1979 clause 31.2

SD: P511DAA322

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA323-1 001

octagon nut

SuperClass: P511AAA052 nut

Definition: nut with octagon shape

AP:

SDD: ISO 1891:1979 clause 31.1

SD: P511DAA323

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA324-1 001

wing nut

SuperClass: P511AAA052 nut

Definition: nut with two wings

AP:

SDD: ISO 1891:1979 clause 37.1

SD: P511DAA324

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA325-1 001

spring-type straight pin, coiled

SuperClass: P511AAA357 spring pin

Definition: spring pin formed by coiling of a steel sheet by more than one turn

AP:

SDD: ISO 8748:1997, ISO 8750:1983, ISO 8751:1983, ISO 8749:1986, ISO 8749:1986

SD: P511DAA325

Remark: ISO 8750:1997, ISO 8751:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA326-1 001

hexagon nut(style 2)

SuperClass: P511AAA052 nut

Definition: nut with a hexagon shape and with a height according to style 2

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

SDD: ISO 4033:1999

SD: P511DAA326

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA327-1 001

hexagon thin nut (chamfered)

SuperClass: P511AAA052 nut

Definition: hexagon nut with small height and chamfered on both sides

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA381: angle of the nut chamfer

SDD: ISO 4035:1999

SD: P511DAA327

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA328-1 001

prevailing torque type hexagon nut with non-metallic insert (style 1)

SuperClass: P511AAA052 nut

Definition: hexagon nut with a prevailing torque element in the form of an inserted non-metallic ring and a height according to style 1

AP: P511BAA015: insert material

P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA381: angle of the nut chamfer

P511BAA416: thread length of nut

SDD: ISO 7040:1997

SD: P511DAA328

Note: ISO 10512:1997 belongs to this class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA329-1 001

prevailing torque type hexagon nut with non-metallic insert (style 2)

SuperClass: P511AAA052 nut

Definition: hexagon nut with a prevailing torque element in the form of an inserted non-metallic ring and a height according to style 2

AP: P511BAA015: insert material

P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA381: angle of the nut chamfer

P511BAA416: thread length of nut

SDD: ISO 7041:1997

SD: P511DAA329

Note: ISO 12216:1997 belongs to this class

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA330-1 001

prevailing torque type all-metal hexagon nut (style 1)

SuperClass: P511AAA052 nut

Definition: all metallic hexagon nut with a prevailing torque element in the form of a deformed threaded portion (style 1)

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA381: angle of the nut chamfer

SDD: ISO 7042:1997

SD: P511DAA330

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA331-1 001

prevailing torque type all-metal hexagon nut (style 2)

SuperClass: P511AAA052 nut

Definition: all metallic hexagon nut with a prevailing torque element in the form of a deformed threaded portion (style 2)

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA381: angle of the nut chamfer

SDD: ISO 7720:1997

SD: P511DAA331

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA332-1 001

prevailing torque type hexagon nut with flange, with non-metallic insert

SuperClass: P511AAA052 nut

Definition: hexagon nut with a flange, and with a prevailing torque element in the form of an inserted non-metallic ring

AP: P511BAA015: insert material

P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA044: flange angle

P511BAA045: flange(collar) diameter

P511BAA114: diameter of the countersink

P511BAA380: countersink angle

P511BAA416: thread length of nut

SDD: ISO 12125:1997

SD: P511DAA332

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA333-1 001

prevailing torque type all-metal hexagon nut with flange

SuperClass: P511AAA052 nut

Definition: all metallic hexagon nut with a flange and prevailing torque element in the form of a deformed threaded portion

AP: P511BAA031: wrenching height

P511BAA032: width across flats

P511BAA033: width across corners

P511BAA041: diameter of washer face or bearing face

P511BAA042: height of bearing element of a bolt or screw or nut

P511BAA044: flange angle

P511BAA045: flange(collar) diameter

P511BAA114: diameter of the countersink

P511BAA416: thread length of nut

SDD: ISO 12126:1997

SD: P511DAA333

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA334-1 001

clevis pin without head

SuperClass: P511AAA355 clevis pin

Definition: pin with cylindrical shape with h-tolerance

AP: P511BAA217: chamfer length of pin
P511BAA229: length from split pin hole to the end

P511BAA230: split pin hole diameter

P511BAA404: length of clevis pin without head

SDD: ISO 2340:1997, ISO 8749:1986

SD: P511DAA334

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA335-1 001

grooved pin, half-length centre grooved

SuperClass: P511AAA356 grooved pin

Definition: pin with a centrally grooved shank, and the groove length equals to half length of shank

AP: P511BAA199: rounded end height

P511BAA231: crown radius

P511BAA234: expanded diameter

P511BAA353: shear strength, double

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without

head

SDD: ISO 8743:1997, ISO 8749:1986

SD: P511DAA335

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA336-1 001

grooved pin, one-third-length centre grooved

SuperClass: P511AAA356 grooved pin

Definition: pin with a centrally grooved shank, and the groove length equals to one third length of shank

AP: P511BAA199: rounded end height

P511BAA231: crown radius

P511BAA234: expanded diameter

P511BAA353: shear strength, double

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without

head

SDD: ISO 8742:1997, ISO 8749:1986

SD: P511DAA336

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA337-1 001

grooved pin, half-length taper grooved

SuperClass: P511AAA356 grooved pin

Definition: pin with a taper grooved shank, and the groove length equals to half length of shank

AP: P511BAA199: rounded end height

P511BAA234: expanded diameter

P511BAA353: shear strength, double

P511BAA398: grooving angle of grooved pin

P511BAA405: length of grooved pin without head

SDD: ISO 8745:1997, ISO 8749:1986

SD: P511DAA337

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA338-1 001

hexagon thin nut (unchamfered)

SuperClass: P511AAA052 nut

Definition: hexagon nut with small height and not chamfered at the bearing faces

AP: P511BAA032: width across flats

P511BAA033: width across corners

SDD: ISO 4036:1999

SD: P511DAA338

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA339-1 001

hexagon head bolt with metric fine pitch thread

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a hexagon head, with plain shank and with fine pitch thread

AP: P511BAA047: radius of curvature under head

P511BAA069: minimum clamp length

P511BAA087: transition length

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 8765:1999

SD: P511DAA339

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA340-1 001

hexagon head screw with metric fine pitch thread

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a hexagon head and with fine pitch thread up to the head

AP: P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 8676:1999

SD: P511DAA340

Note: ISO 4018:1999 belongs to the same simple class

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA342-1 001

hexagon socket head cap screw with metric fine pitch thread

SuperClass: P511AAA005 metric threaded bolt/screw

Definition: metric externally threaded fastener with a cylindrical head with a hexagon socket and with fine pitch thread

AP: P511BAA012: thread length

P511BAA047: radius of curvature under head

P511BAA357: transition diameter

P511BAA369: length of bolt/screw (flat seating head)

SDD: ISO 21269:2004

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA344-1 001

metric internal thread

SuperClass: P511AAA037 thread

Definition: general internal thread defined by the metric unit system

AP: P511BAA358: pitch diameter of internal thread

P511BAA359: minor diameter of internal thread

P511BAA360: major diameter of internal thread

SDD: ISO 68-1:1998

SD: P511DAA344

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA345-1 001

rivet

SuperClass: P511AAA002 fastener

Definition: cylindrical metal fastener with a preformed head at one end, whereas the head at the other end is formed during setting, such creating a non-detachable joint

AP: P511BAA005: manufacturer

P511BAA006: ICD code

P511BAA007: manufacture date

P511BAA008: designation

P511BAA011: EAN/UCC code

P511BAA179: head height of rivet

P511BAA180: head diameter of rivet

P511BAA253: shear load

P511BAA319: organization identifier of manufacturer

P511BAA330: rivet shank name

P511BAA331: rivet shank picture

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA346-1 001

full shank rivet

SuperClass: P511AAA345 rivet

Definition: a rivet with a full shank

AP:

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA347-1 001

tubular rivet

SuperClass: P511AAA345 rivet

Definition: a rivet with a hollow shank like a tube

AP: P511BAA328: rivet head name

P511BAA329: rivet head picture

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA348-1 001

semi tubular rivet

SuperClass: P511AAA345 rivet

Definition: a rivet with a full shank which is hollow (tubular) at the end where the rivet head is formed during setting

AP: P511BAA328: rivet head name

P511BAA329: rivet head picture

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA349-1 001

pilot point

SuperClass: P511AAA028 end

Definition: cylindrical projection at the bolt/screw end to ease screwing into the nut

AP: P511BAA079: length of point

P511BAA082: incomplete thread length

P511BAA364: diameter of the pilot point

SDD: ISO 4753:1999

SD: P511DAA349

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA350-1 001

truncated pilot point

SuperClass: P511AAA028 end

Definition: pilot point with a truncated cone end

AP: P511BAA079: length of point

P511BAA082: incomplete thread length

P511BAA363: length of cone of pilot point with truncated cone

P511BAA364: diameter of the pilot point

SDD: ISO 4753:1999
SD: P511DAA350
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511AAA351-1 001

head with knurl

SuperClass: P511AAA008 head

Definition: cylindrical head with knurl at the circumference

AP:

SDD: ISO 1891:1979 clause 6.17

SD: P511DAA351

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA352-1 001

head with wings

SuperClass: P511AAA008 head

Definition: head with two wings

AP:

SDD: ISO 1891:1979 clause 6.14

SD: P511DAA352

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA353-1 001

cup head

SuperClass: P511AAA008 head

Definition: head shape which is a sphere section

AP: P511BAA034: head height

P511BAA051: head diameter

SDD: ISO 8677:1986

SD: P511DAA353

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA354-1 001

headless screw with shank

SuperClass: P511AAA004 externally threaded fastener component

Definition: externally threaded fastener without head and with a shank with internal drive

AP: P511BAA012: thread length

P511BAA105: shank shape name

P511BAA106: shank shape picture

P511BAA107: end shape name

P511BAA108: end shape picture

P511BAA109: internal drive shape name

P511BAA110: internal drive shape picture

P511BAA244: shank properties

P511BAA245: end properties

P511BAA246: thread properties

P511BAA247: internal drive properties

P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

P511BAA326: product grade

SSP: P511BAA306: type of end

P511BAA307: type of thread

P511BAA308: type of internal drive

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA355-1 001

clevis pin

SuperClass: P511AAA098 pin

Definition: pin with cylindrical shape with or without a cylindrical head with flat seating bearing face

AP: P511BAA362: chamfer angle on the end of pin

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA356-1 001

grooved pin

SuperClass: P511AAA098 pin

Definition: cylindrical pin with grooved shank with or without a head

AP:

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA357-1 001

spring pin

SuperClass: P511AAA098 pin

Definition: pin which can be elastically deformed in radial direction

AP: P511BAA215: chamfer diameter

P511BAA216: material thickness

P511BAA217: chamfer length of pin

P511BAA352: duty level

P511BAA353: shear strength, double

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA358-1 001

taper pin

SuperClass: P511AAA098 pin

Definition: pin with conical shape

AP: P511BAA200: taper

P511BAA246: thread properties

P511BAA307: type of thread

P511BAA410: length of taper pin

SSP: P511BAA307: type of thread

SDD: ISO 2339:1986

SD:

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511AAA359-1 001

plain washer with double chamfers

SuperClass: P511AAA026 plain washer

Definition: plain washer with outside and inside chamfers on one of the faces

AP: P511BAA333: outside diameter

P511BAA334: hole diameter

SDD: ISO 7416:1984

SD: P511DAA359

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

Annex D (normative)

Fastener property DET definitions

This annex specifies the property DET definition of properties imported from IEC 61360-4 and properties defined in this part of ISO 13584.

D.1. Property DET definition imported from IEC 61360-4

AAE012-005 02

international standard

Definition: reference to the appropriate international standard

DC: AAA000 IEC reference collection

PLS:

Unit:

VF: M..30

DT: string_type

PTC: A61

Note:

SDD: IEC 61360-4: 1997

DOD: 1997-04-01 **DCV:** 1997-04-01

DCR: 1997-04-01

mass

Definition: the nominal mass of a component

DC: AAA000 IEC reference collection

PLS:

Unit: kg

VF: NR2..3.3

DT: real_measure_type

PTC: K01

Note:

SDD: IEC 61360-4: 1997

DOD: 1997-04-01 **DCV:** 1997-04-01

DCR: 1997-04-01

AAE687-005 01

quality authentication

Definition: the abbreviated name of the office which has tested the quality of fastener

DC: AAA000 IEC reference collection

PLS:

Unit:

VF: M..30

DT: string_type

PTC: A61

Note:

SDD: IEC 61360-4: 1997

DOD: 1997-04-01 **DCV:** 1997-04-01

DCR: 1997-04-01

AAF043-005 03

national standard

Definition: reference to the appropriate national standard

DC: AAA000 IEC reference collection

PLS:

Unit:

VF: M..30

DT: string_type

PTC: A61

Note:

SDD: IEC 61360-4: 1997

DOD: 1997-04-01 **DCV:** 1997-04-01

DCR: 1997-04-01

AAE752-005 01

D.2. Property DET definition defined in this part of ISO 13584

P511BAA005-1 001

manufacturer

Definition: organization who takes the legal responsibility as the producer of the product

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A11

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA006-1 001

ICD code

Definition: ICD of the organization coding system according to ISO 6523 that identifies the organization who takes the legal responsibility as the producer of the product

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A52

Remark: ICD means International Code Designator. It is a data element used to uniquely identify an organization identification scheme. If ISO 6523 compliant identification of the organization is defined, it shall be provided using P511BAA006 and P511BAA319. These properties are provided both for those organization that have no ISO6523 compliant identification and for additional use when use of non-standardizes coding system is useful.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA007-1 001

manufacture date

Definition: date that the component was manufactured

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A31

SDD: ISO 10303-203:1994

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA008-1 001

designation

Definition: identification of a product with all relevant properties

DC: P511AAA002 fastener

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

SDD: ISO 8991:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA011-1 001

EAN/UCC code

Definition: identification number assigned according to EAN International and Uniform

Code Council coding system

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..14

DT: STRING_TYPE

PTC: A51

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA012-1 001

thread length

Definition: length of thread on externally threaded fastener

DC: P511AAA002 fastener

PLS: b

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA013-1 001

body material

Definition: material used to manufacture the body of blind rivet

DC: P511AAA083 blind rivet

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A51

SDD: ISO 15973:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA014-1 001

mandrel material

Definition: material used to manufacture the mandrel of blind rivet

DC: P511AAA083 blind rivet

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A51

SDD: ISO 15973:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA015-1 001

insert material

Definition: material of the non-metallic ring inserted in the prevailing torque element of a prevailing torque type nut

DC: P511AAA052 nut

Unit:

VF: M..30
DT: STRING_TYPE
PTC: A51
SDD: ISO 7044:1997
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA020-1 001

minimum diameter of radial undercut

Definition: minimum diameter of the radial undercut that may exist on an externally threaded fastener

DC: P511AAA171 hexagon socket head shoulder screw

PLS: dg/dg1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4755:1983, ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA022-1 001

width of radial undercut

Definition: width of radial undercut in axial direction that may exist on an externally threaded fastener

DC: P511AAA171 hexagon socket head shoulder screw

PLS: g1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4755:1983, ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA024-1 001

pitch

Definition: distance between two adjacent threads for any kind of thread

DC: P511AAA037 thread

PLS: P

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4759:1978

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA025-1 001

thread length of stud metal end

Definition: length of the thread of the metal end of a stud

DC: P511AAA049 stud

PLS: bm

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA028-1 001

overall length

Definition: distance between two ends of the stud

DC: P511AAA049 stud

PLS: lf

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA030-1 001

length of thread run-out

Definition: distance between the start of the thread to the first full thread

DC: P511AAA004 externally threaded fastener component

PLS: x

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 3508:1976

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA031-1 001

wrenching height

Definition: height of portion of hexagon bolt / screw and nut used to match with the wrench, which is within the tolerance limits

DC: P511AAA002 fastener

PLS: kw/mw

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: for bolt/screw kw and for nut mw apply

SDD: ISO 4759-1:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA032-1 001

width across flats

Definition: distance between two opposite flats of a square, hexagon or octagon driving feature

DC: P511AAA002 fastener

PLS: s

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA033-1 001

width across corners

Definition: distance between two opposite corners of a square, hexagon or octagon driving feature

DC: P511AAA002 fastener

PLS: e

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA034-1 001

head height

Definition: distance from the bearing face to the top of the head

DC: P511AAA008 head

PLS: k

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA037-1 001

width of radial undercut in a shank

Definition: width of radial undercut in axial direction that may exist else where than under the head in the shank of an externally threaded fastener

DC: P511AAA171 hexagon socket head shoulder screw

PLS: g2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Remark: this property shall not be used when there are different radial undercuts in a shank. Specific properties are defined in the

corresponding component class to address such specific cases.

SDD: ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA038-1 001

radius of the undercut under head

Definition: radius of curvature of the undercut at the head / shank junction

DC: P511AAA024 shank

PLS: r1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA041-1 001

diameter of washer face or bearing face

Definition: outside diameter of the bearing element of a bolt or screw or nut

DC: P511AAA002 fastener

PLS: dw

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: the bearing element may be e.g.: flange, collar, washer face, or any round head shape

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA042-1 001

height of bearing element of a bolt or screw or nut

Definition: height of the washer face portion or thickness of collar or flange

DC: P511AAA002 fastener

PLS: c

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: the bearing element may be e.g.: flange, collar, washer face

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA044-1 001

flange angle

Definition: angle formed between the bearing face and the flange surface of a hexagon bolt or

nut with flange

DC: P511AAA002 fastener

PLS: Delta

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA045-1 001

flange(collar) diameter

Definition: diameter of flange or collar, which is part of a head of externally threaded fastener or nut

DC: P511AAA002 fastener

PLS: dc

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA046-1 001

distance from the last full form thread to the head bearing face

Definition: distance from the last full form thread to the head bearing face of externally threaded bolt/screw which are threaded to the head

DC: P511AAA004 externally threaded fastener component

PLS: a

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA047-1 001

radius of curvature under head

Definition: radius of curvature at the shank / head junction

DC: P511AAA004 externally threaded fastener component

PLS: r/r1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 885:2000, ISO 10509:1992

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA048-1 001

minimum diameter of radial undercut in a shank

Definition: minimum diameter of the radial undercut that may exist between thread and shank of an externally threaded fastener

DC: P511AAA171 hexagon socket head shoulder screw

PLS: dg2

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

Remark: this property shall not be used when there are different radial undercuts in a shank. Specific properties are defined in the corresponding component class to address such specific cases.

SDD: ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA050-1 001

castle diameter

Definition: outer diameter of the castle which belongs to castle nut

DC: P511AAA229 hexagon castle nut

PLS: de

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA051-1 001

head diameter

Definition: diameter of head for externally threaded fastener

DC: P511AAA008 head

PLS: dk

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA052-1 001

slot width

Definition: width of slot of slotted head screws, slotted set screws, slotted nuts and castle nuts

DC: P511AAA002 fastener

PLS: n
Unit: mm
VF: NR2..3.3
DT: LEVEL_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA053-1 001
bottom thickness
Definition: distance from the bottom of slot to the bearing face on slotted and castle nut
DC: P511AAA052 nut
PLS: w
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA054-1 001
shank length
Definition: length of unthreaded shank including rotation prevention, if any
DC: P511AAA024 shank
PLS: ls
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA057-1 001
nominal dimension A
Definition: outer diameter of the hexalobular socket
DC: P511AAA222 hexalobular socket
PLS: A
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 10664:2005
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA060-1 001
radius of the raised portion of the head
Definition: radius of the raised portion of the head
DC: P511AAA008 head
PLS: rf

Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA067-1 001
shank diameter
Definition: diameter of the shank of externally threaded fastener
DC: P511AAA024 shank
PLS: ds
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4014:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA069-1 001
minimum clamp length
Definition: distance from the underside of the head to the last major diameter of the thread of externally threaded fastener with shank
DC: P511AAA004 externally threaded fastener component
PLS: lg
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA071-1 001
square neck width
Definition: width of square neck of bolt shank
DC: P511AAA025 shank with square neck
PLS: v
Unit: mm
VF: NR2..3.3
DT: LEVEL_TYPE
PTC: T03
SDD: ISO 8677:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA072-1 001
square neck length
Definition: length of square neck of bolt shank
DC: P511AAA025 shank with square neck
PLS: f
Unit: mm

VF: NR2..3.3
DT: LEVEL_TYPE
PTC: T03
SDD: ISO 8677:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA075-1 001
nominal dimension B
Definition: inner diameter of hexalobular socket
DC: P511AAA222 hexalobular socket
PLS: B
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 10664:2005
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA077-1 001
diameter of truncated cone point
Definition: smallest diameter of the 'truncated cone point'
DC: P511AAA028 end
PLS: dt
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA078-1 001
diameter of cup point
Definition: diameter of cup edge of the 'cup point'
DC: P511AAA028 end
PLS: dz
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA079-1 001
length of point
Definition: distance between the thread end and the end of fastener
DC: P511AAA028 end
PLS: z1/z2
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE

PTC: T03
Note: the preferred litter symbol also include z3,z4
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA080-1 001
diameter of scrape point
Definition: smallest diameter of the conical end of scrape point
DC: P511AAA028 end
PLS: dn
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA081-1 001
length of the cone part of the scrape point
Definition: length of the cone part of the scrape point
DC: P511AAA036 scrape point
PLS: lk
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA082-1 001
incomplete thread length
Definition: length of incomplete thread over the end of metric externally threaded fastener
DC: P511AAA028 end
PLS: u
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA083-1 001
length of the scrape point
Definition: the length from the beginning of the cutting edge to the end of the fastener" and PLS is "ln"
DC: P511AAA036 scrape point
PLS: ln
Unit: mm

VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA084-1 001
radius of rounded end
Definition: radius of the rounded end
DC: P511AAA028 end
PLS: re
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA085-1 001
diameter of dog point or flat point
Definition: diameter of dog point or end diameter of flat point
DC: P511AAA028 end
PLS: dp
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 4753:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA087-1 001
transition length
Definition: length of the conical transition from head to shank.
DC: P511AAA004 externally threaded fastener component
PLS: lf
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983, ISO 4014:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA090-1 001
diameter of flat end
Definition: diameter of flat end of tapping screw
DC: P511AAA132 flat end (type F) of tapping screw
PLS: d3
Unit: mm
VF: NR2..3.3

DT: LEVEL_TYPE
PTC: T03
SDD: ISO 1478:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA092-1 001
hexalobular socket number
Definition: number which defines the size of the hexalobular socket.
DC: P511AAA222 hexalobular socket
Unit:
VF: M..30
DT: STRING_TYPE
PTC: A51
SDD: ISO 10664:2005
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA093-1 001
diameter of drilling point
Definition: diameter of drilling point of drilling screw
DC: P511AAA012 drilling point of drilling screw
PLS: dp
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 15480:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA096-1 001
length of tapping screw end
Definition: distance from the last full thread to the end of tapping screw
DC: P511AAA028 end
PLS: y
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 1478:1999
DOD: 2006-02-22 DCV: 2006-02-22
DCR: 2006-02-22

P511BAA098-1 001
hexagon socket width across corners
Definition: distance between two opposite corners of hexagon socket
DC: P511AAA042 internal drive
PLS: e
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE

PTC: T03
SDD: ISO 4762:2004
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA101-1 001

penetration depth

Definition: depth of penetration of internal drive

DC: P511AAA042 internal drive

PLS: t

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 7434:1983, ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA102-1 001

recess number

Definition: number which defines the size of cross recess

DC: P511AAA042 internal drive

Unit:

VF: NR2..3.3

DT: REAL_TYPE

PTC: T03

SDD: ISO 7048:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA103-1 001

head shape name

Definition: name of head of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard head feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA104-1 001

head shape picture

Definition: picture of head of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard head feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA105-1 001

shank shape name

Definition: name of shank of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard shank feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA106-1 001

shank shape picture

Definition: picture of shank of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard shank feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA107-1 001

end shape name

Definition: name of end of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard end feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA108-1 001

end shape picture

Definition: picture of end of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard end feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA109-1 001

internal drive shape name

Definition: name of internal drive feature of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard driving feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA110-1 001

internal drive shape picture

Definition: picture of internal drive feature of externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard driving feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA114-1 001

diameter of the countersink

Definition: diameter of the countersink at the end of nut thread

DC: P511AAA052 nut

PLS: da

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA117-1 001

nut height

Definition: overall height of nut

DC: P511AAA052 nut

PLS: m/h

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: h for prevailing torque type nuts

SDD: ISO 225:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA179-1 001

head height of rivet

Definition: height of head of rivet

DC: P511AAA345 rivet

PLS: k

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 14588:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA180-1 001

head diameter of rivet

Definition: head diameter of rivet

DC: P511AAA345 rivet

PLS: dk

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 14588:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA189-1 001

mandrel protrusion

Definition: maximum length of the mandrel shank protrusion from the blind rivet head, prior to setting, measure parallel to the axis of the blind rivet body

DC: P511AAA083 blind rivet

PLS: p

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03
SDD: ISO 14588:2000
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA190-1 001

mandrel diameter

Definition: diameter of mandrel of blind rivet

DC: P511AAA083 blind rivet

PLS: dm

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 14588:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA191-1 001

blind length

Definition: distance, measured parallel to the axis of the blind rivet, either from the under head face of the protruding head or from the top face of the countersunk head to the extreme end of the mandrel head

DC: P511AAA083 blind rivet

PLS: b

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: for closed end blind rivets, the blind length is identical to the rivet length. (see ISO 14588)

SDD: ISO 14588:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA193-1 001

difference of leg lengths

Definition: distance between the two ends of split legs

DC: P511AAA248 split pin

PLS: a

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1234:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA195-1 001

eyelet height for split pin

Definition: height of eyelet shape head for split pin

DC: P511AAA248 split pin

PLS: b

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 1234:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA196-1 001

eyelet diameter for split pin

Definition: diameter of eyelet shape head for split pin

DC: P511AAA248 split pin

PLS: c

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1234:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA198-1 001

large rounded end radius for taper pin

Definition: radius of rounded end (at larger end) of taper pin

DC: P511AAA249 simple taper pin

PLS: r2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2339:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA199-1 001

rounded end height

Definition: height of rounded end of taper pin or grooved pin

DC: P511AAA098 pin

PLS: a

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2339:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA200-1 001

taper

Definition: reduction in the diameter of a conical part per unit length

DC: P511AAA358 taper pin

Unit:

VF: NR2..3.3

DT: REAL_TYPE
PTC: T03
SDD: ISO 2339:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA202-1 001

chamfer width for the end with internal thread

Definition: width of chamfer at the end with internal thread of parallel pin with internal thread
DC: P511AAA253 parallel pin with internal thread
PLS: c1
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 8733:1997
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA204-1 001

countersink diameter of pin

Definition: diameter of internal thread countersink of pin
DC: P511AAA098 pin
PLS: d3
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 8736:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA205-1 001

internal thread length of pin

Definition: length of internal thread of taper pin or parallel pin
DC: P511AAA098 pin
PLS: t1
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 8736:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA206-1 001

depth of hole

Definition: depth of entire hole of pins with internal thread
DC: P511AAA098 pin
PLS: t2
Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8736:1986,ISO 8735:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA207-1 001

depth of cylindrical countersink

Definition: depth of cylindrical part of the countersink of pins with internal thread
DC: P511AAA098 pin
PLS: t3
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 8736:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA208-1 001

length of thread run out to cone

Definition: length of thread run out to cone
DC: P511AAA251 taper pin with external thread
PLS: a
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 8737:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA209-1 001

length of threaded portion

Definition: length of threaded portion (including pilot end) of taper pin with external thread
DC: P511AAA251 taper pin with external thread
PLS: b
Unit: mm
VF: NR2..3.3
DT: LEVEL_TYPE
PTC: T03
SDD: ISO 8737:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA210-1 001

pilot end length

Definition: length of pilot (or extruded) end of taper pin with external thread
DC: P511AAA251 taper pin with external thread
PLS: z

Unit: mm
VF: NR2..3.3
DT: LEVEL_TYPE
PTC: T03
SDD: ISO 8737:1986
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA211-1 001

diameter of pilot end

Definition: diameter of pilot (or extruded) end of taper pin with external thread

DC: P511AAA251 taper pin with external thread

PLS: d3

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8737:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA215-1 001

chamfer diameter

Definition: chamfer diameter of spring-type straight pin

DC: P511AAA357 spring pin

PLS: d3/d2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Remark: this property is intended to be used for ISO 8752:1997, ISO 8748:1997 etc.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA216-1 001

material thickness

Definition: thickness of wall of spring type pin (slotted or coiled)

DC: P511AAA098 pin

PLS: s

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Remark: this property is intended to be used for ISO 8752:1997 etc.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA217-1 001

chamfer length of pin

Definition: chamfer length at the end of pin

DC: P511AAA098 pin

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: for parallel pins and clevis pins the symbol is "c", for parallel pins with internal thread different symbols "c1/c2/c/a" are used, and for spring pins the symbol is "a"

Remark: this property is used for ISO 2338:1997, ISO 8733:1997, ISO 8752:1997 etc.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA225-1 001

head height of pin

Definition: head height of clevis pin and grooved pin

DC: P511AAA098 pin

PLS: k

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA229-1 001

length from split pin hole to the end

Definition: length from split pin hole to the end of clevis pin

DC: P511AAA355 clevis pin

PLS: le

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2340:1986, ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA230-1 001

split pin hole diameter

Definition: diameter of the hole for the split pin in clevis pin

DC: P511AAA355 clevis pin

PLS: d1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2340:1986, ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA231-1 001

crown radius

Definition: radius of crown for grooved pin, or radius of smaller crown for taper pin

DC: P511AAA098 pin

PLS: r

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8739:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA232-1 001

pilot length

Definition: pilot length of grooved pin

DC: P511AAA257 grooved pin, full-length parallel grooved, with pilot

PLS: c

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8739:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA234-1 001

expanded diameter

Definition: shank diameter of grooved pin measured over the groove edges

DC: P511AAA356 grooved pin

PLS: d2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8739:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA235-1 001

groove angle

Definition: angle of groove of grooved pin

DC: P511AAA356 grooved pin

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T01

SDD: ISO 8739:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA237-1 001

head diameter of pin

Definition: head diameter of clevis pin and grooved pin

DC: P511AAA098 pin

PLS: dk

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8746:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA239-1 001

inner diameter

Definition: inner diameter of slotted spring pin

DC: P511AAA261 spring-type straight pin, slotted

PLS: d2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8752:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA241-1 001

height of crown

Definition: height including height of convexity and width of chamfer of grooved pin

DC: P511AAA258 grooved pin, full-length parallel grooved, with chamfer

PLS: c2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8740:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA242-1 001

convexity height

Definition: height for convexity of one end with chamfer of grooved pin

DC: P511AAA258 grooved pin, full-length parallel grooved, with chamfer

PLS: c1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8740:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA243-1 001

head properties

Definition: a feature instance of which the properties allow to characterize the head of an

externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

DT: CLASS_INSTANCE_TYPE: P511AAA008

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA244-1 001

shank properties

Definition: a feature instance of which the properties allow to characterize the shank of an externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

DT: CLASS_INSTANCE_TYPE: P511AAA024

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA245-1 001

end properties

Definition: a feature instance of which the properties allow to characterize the end of an externally threaded fastener

DC: P511AAA004 externally threaded fastener component

Unit:

VF:

DT: CLASS_INSTANCE_TYPE: P511AAA028

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA246-1 001

thread properties

Definition: a feature instance of which the properties allow to characterize the thread of a threaded fastener

DC: P511AAA002 fastener

Unit:

VF:

DT: CLASS_INSTANCE_TYPE: P511AAA037

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA247-1 001

internal drive properties

Definition: a feature instance of which the properties allow to characterize the internal drive of an externally threaded fastener

DC: P511AAA004 externally threaded fastener

component

Unit:

VF:

DT: CLASS_INSTANCE_TYPE: P511AAA042

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA248-1 001

thread tolerance position

Definition: to specify the position of the tolerance field of thread tolerances

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

G=G type (positive) fundamental deviation for internal thread

H=H type (zero) fundamental deviation for internal thread

e=e type (largest negative) fundamental deviation for external thread

f=f type (larger negative) fundamental deviation for external thread

g=g type (small negative) fundamental deviation for external thread

h=h type (zero) fundamental deviation for external thread

PTC: A59

SDD: ISO 965-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA249-1 001

thread tolerance grade

Definition: to specify the size of the tolerance field of thread tolerances

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

3=a code of thread tolerance grade defined in ISO 965-1

4=a code of thread tolerance grade defined in ISO 965-1

5=a code of thread tolerance grade defined in ISO 965-1

6=a code of thread tolerance grade defined in ISO 965-1

7=a code of thread tolerance grade defined in ISO 965-1

8=a code of thread tolerance grade defined in ISO 965-1

9=a code of thread tolerance grade defined in ISO 965-1

PTC: A59

Note: ext.=external thread int.= internal thread,

MJD= major diameter, MND=minor diameter,
PD=pitch diameter

SDD: ISO 965-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA253-1 001

shear load

Definition: minimum shear load of rivet

DC: P511AAA345 rivet

Unit: N

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15974:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA254-1 001

tensile load

Definition: minimum tensile load for rivet

DC: P511AAA083 blind rivet

Unit: N

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15974:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA255-1 001

mandrel break load

Definition: maximum mandrel break load for blind rivet

DC: P511AAA083 blind rivet

Unit: N

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15974:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA256-1 001

thread tolerance class

Definition: specifies the size and the position of a thread tolerance field

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

3g=thread tolerance grade 3 and tolerance position g

4G=thread tolerance grade 4 and tolerance position G

4H=thread tolerance grade 4 and tolerance position H

4g=thread tolerance grade 4 and tolerance position g

4h=thread tolerance grade 4 and tolerance position h

5G=thread tolerance grade 5 and tolerance position G

5H=thread tolerance grade 5 and tolerance position H

5g=thread tolerance grade 5 and tolerance position g

5h=thread tolerance grade 5 and tolerance position h

6G=thread tolerance grade 6 and tolerance position G

6H=thread tolerance grade 6 and tolerance position H

6g=thread tolerance grade 6 and tolerance position g

6h=thread tolerance grade 6 and tolerance position h

7G=thread tolerance grade 7 and tolerance position G

7H=thread tolerance grade 7 and tolerance position H

7g=thread tolerance grade 7 and tolerance position g

7h=thread tolerance grade 7 and tolerance position h

8G=thread tolerance grade 8 and tolerance position G

8H=thread tolerance grade 8 and tolerance position H

8g=thread tolerance grade 8 and tolerance position g

8h=thread tolerance grade 8 and tolerance position h

9g=thread tolerance grade 9 and tolerance position g

9h=thread tolerance grade 9 and tolerance position h

PTC: A59

Note: the first number means one of tolerance grade of fastener thread diameter, i.e. 4,5,...etc. The second alphabetic characters G and H used for internal threads, g and h used for external threads.

SDD: ISO 965-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA303-1 001

type of head

Definition: classification property to which values (non-quantitative codes) are assigned according to head feature of externally threaded fastener

DC: P511AAA003 externally threaded fastener

Unit:**VF:** M..30**DT:** NON_QUANTITATIVE_CODE_TYPE

12PFL=12 point flange head

BUT=button head

CHD=cup head

CHS=cheese head

CLD=cylindrical head

COT=countersunk head

CRAI=cheese raised head

ELS=eyelet shape head

EYS=eye shape head

HEWF=hexagon head with flange

HEX=hexagon head

HEXO=hexagon head with collar

HEXW=hexagon head with washer face

HWK=head with knurl

HWW=head with wings

OTN=octagonal head

PAN=pan head

RADC=raised countersunk head

ROH=round head

SQEC=square head with collar

SQR=square head

THD=t-head

TOM=head with tommy

TRIC=triangle head with collar

PTC: A52**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511BAA305-1 001****type of shank****Definition:** classification property to which values (non-quantitative codes) are assigned according to shank feature of externally threaded fastener**DC:** P511AAA003 externally threaded fastener**Unit:****VF:** M..30**DT:** NON_QUANTITATIVE_CODE_TYPE

FIT=fit shank

FLS=full shank

RDD=reduced shank

SHD=shoulder shank

SQN=shank with square neck

WID=waisted shank

PTC: A52**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511BAA306-1 001****type of end****Definition:** classification property to which values (non-quantitative codes) are assigned according to end feature of externally threaded fastener**DC:** P511AAA003 externally threaded fastener**Unit:****VF:** M..30**DT:** NON_QUANTITATIVE_CODE_TYPE

ARE=as-rolled end

CET=flat end, type F of tapping screw

CFE=chamfered end

CON=cone end, type C of tapping screw

CPP=cup point

CPT=cone point

DGP=dog point

DRD=drilling point of drilling screw

EOT=end of thread forming screw

FLA=flat point

PIP=pilot point

RDE=rounded end

ROU=rounded end, type R of tapping screw

SCP=scrape point

TCP=truncated cone point

TPP=truncated pilot point

PTC: A52**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511BAA307-1 001****type of thread****Definition:** classification property to which values (non-quantitative codes) are assigned according to thread feature of mechanical component for general use**DC:** P511AAA001 mechanical component for general use**Unit:****VF:** M..128**DT:** NON_QUANTITATIVE_CODE_TYPE

MEP=thread forming screw thread

MET=metric external thread

MIT=metric internal thread

TST=self-tapping screw thread

WST=wood screw thread

PTC: A52**DOD:** 2006-02-22 **DCV:** 2006-02-22**DCR:** 2006-02-22**P511BAA308-1 001****type of internal drive****Definition:** classification property to which values (non-quantitative codes) are assigned according to internal drive feature of externally threaded fastener**DC:** P511AAA003 externally threaded fastener**Unit:****VF:** M..30**DT:** NON_QUANTITATIVE_CODE_TYPE

12 S=12 point socket

CRH=cross hole

CRR=cross recess type H

CZT=cross recess type Z
 HXLS=hexalobular socket
 HXS=hexagon socket
 SLO=slot
 SQS=square socket
 SSS=six-spline socket
 TRS=triangle socket

PTC: A52

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA319-1 001

organization identifier of manufacturer

Definition: identifier of the organization who takes the legal responsibility as the producer of the product in the coding system

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A21

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA320-1 001

fastener material identification

Definition: identification code representing types of material for fastener

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

A=Austenitic steel

A1=Austenitic steel grade A1

A2=Austenitic steel grade A2

A3=Austenitic steel grade A3

A4=Austenitic steel grade A4

A5=Austenitic steel grade A5

AL1=AlMg3

AL2=AlMg5

AL3=AlSiMgMn

AL4=AlCu4MgSi

AL5=AlZnMgCu 0,5

AL6=AlZn5,5MgCu

Alloy steel=Alloy steel

C=Martensitic steel

C1=Martensitic steel grade C1

C3=Martensitic steel grade C3

C4=Martensitic steel grade C4

CU1=Cu-ETP or Cu-FRHC

CU2=CuZn37

CU3=CuZn39ph3

CU4=CuSn6

CU5=CuNi1Si

CU6=CuAl10Ni5Fe4

Carbon steel=Carbon steel

F=Ferritic steel

F1=Ferritic steel grade F1

PTC: A59

SDD: ISO 8992:2005, ISO 8839:1999, ISO 3506-1:1997, ISO 3506-2:1997, ISO 3506-3:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA321-1 001

steel fastener property class

Definition: identification code representing all mechanical and physical properties of a steel fastener e.g. tensile strength, yield strength, elongation after fracture, hardness, etc.

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

04=steel fastener property class 04

05=steel fastener property class 05

10=steel fastener property class 10

10.9=steel fastener property class 10.9

12=steel fastener property class 12

12.9=steel fastener property class 12.9

3.6=steel fastener property class 3.6

4= steel fastener property class 4

4.6=steel fastener property class 4.6

4.8=steel fastener property class 4.8

5= steel fastener property class 5

5.6=steel fastener property class 5.6

5.8=steel fastener property class 5.8

6= steel fastener property class 6

6.8=steel fastener property class 6.8

8= steel fastener property class 8

8.8=steel fastener property class 8.8

9= steel fastener property class 9

9.8=steel fastener property class 9.8

PTC: A59

Note: steel fastener property classes apply to threaded fasteners only.

SDD: ISO 898-1:1997, ISO 898-2:1997, ISO 898-6:1994

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA322-1 001

fastener material name

Definition: name of material for fastener

DC: P511AAA002 fastener

Unit:

VF: M..64

DT: STRING_TYPE

PTC: A51

Remark: ISO 3506-1:1997, ISO 3506-2:1997, ISO 3506-3:1997, ISO 898-1:1999, ISO 898-5:1998, ISO 8839:1999, etc.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA323-1 001

stainless steel fastener property class

Definition: identification code representing all mechanical and physical properties of a stainless steel fastener e.g. tensile strength, yield strength, elongation after fracture, hardness, etc.

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

020=stainless steel fastener property class
020

025=stainless steel fastener property class
025

030=stainless steel fastener property class
030

035=stainless steel fastener property class
035

040=stainless steel fastener property class
040

055=stainless steel fastener property class
055

110=stainless steel fastener property class
110

45=stainless steel fastener property class 45

50=stainless steel fastener property class 50

60=stainless steel fastener property class 60

70=stainless steel fastener property class 70

80=stainless steel fastener property class 80

PTC: A59

SDD: ISO 3506-1:1997, ISO 3506-2:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA324-1 001

fastener coating code

Definition: identification code to specify the coating metal, minimum coating thickness, finish, and chromate treatment by using the string structure defined in ISO 4042

DC: P511AAA002 fastener

Unit:

VF: M..64

DT: STRING_TYPE

PTC: A51

SDD: ISO 4042:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA326-1 001

product grade

Definition: to specify the dimensional tolerances and tolerances of shape and position

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

A=a code for the most precise selection of tolerance

B=a code for the middle precise selection of tolerance

C=a code for the least precise selection of tolerance

PTC: A56

SDD: ISO 4759-1:2000, ISO 4759-3:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA327-1 001

type of pitch

Definition: classification property to specify the pitch of thread which can be coarse or fine pitch

DC: P511AAA001 mechanical component for general use

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

COR=coarse pitch

FINE=fine pitch

PTC: A56

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA328-1 001

rivet head name

Definition: name for representing rivet head feature

DC: P511AAA345 rivet

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard rivet head feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA329-1 001

rivet head picture

Definition: picture identification for representing rivet head feature

DC: P511AAA345 rivet

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for

non-standard rivet head feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA330-1 001

rivet shank name

Definition: name for representing rivet shank feature

DC: P511AAA345 rivet

Unit:

VF: M..30

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard rivet shank feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA331-1 001

rivet shank picture

Definition: picture identification for representing rivet shank feature

DC: P511AAA345 rivet

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard rivet shank feature

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA333-1 001

outside diameter

Definition: outer diameter of washer

DC: P511AAA072 washer

PLS: d2

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 7091:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA334-1 001

hole diameter

Definition: hole diameter of washer

DC: P511AAA072 washer

PLS: d1

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 7091:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA335-1 001

washer name

Definition: name of washer, especially for non-standardized washer

DC: P511AAA072 washer

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA336-1 001

material thickness

Definition: material thickness of spring washer or lock washer

DC: P511AAA072 washer

PLS: s

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA337-1 001

thickness

Definition: thickness of plain washer

DC: P511AAA026 plain washer

PLS: h

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA338-1 001

height of conical spring washer or lock washer

Definition: height of non-flat washer in free status (i.e. not under load) e.g. conical spring washer or lock washer

DC: P511AAA072 washer

PLS: h

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA340-1 001

thread size

Definition: non quantitative code which specifies the thread, e.g. M10, ST4.8 etc

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: STRING_TYPE

PTC: T03

SDD: ISO 1479:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA342-1 001**core hardness**

Definition: hardness in the core area of a fastener

DC: P511AAA001 mechanical component for general use

Unit:

VF: NR2 5..3.3

DT: LEVEL_TYPE

PTC: A57

SDD: ISO 6506-1:1999, ISO 6507-1:1999, ISO 6508-1:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA343-1 001**surface hardness**

Definition: hardness in the surface area of a fastener

DC: P511AAA001 mechanical component for general use

Unit:

VF: NR2 5..3.3

DT: LEVEL_TYPE

PTC: A57

SDD: ISO 6506-1:1999, ISO 6507-1:1999, ISO 6508-1:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA344-1 001**steel fastener hardness class**

Definition: identification code representing a hardness range for steel fasteners

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

14H=steel fastener hardness class 14H

22H=steel fastener hardness class 22H

33H=steel fastener hardness class 33H

45H=steel fastener hardness class 45H

PTC: A57

Note: for washers the hardness class is defined in product standards

SDD: ISO 898-5:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA345-1 001**hardness test method identification**

Definition: alphanumeric code which specifies the hardness test method and its associated characteristics

DC: P511AAA002 fastener

Unit:

VF: M..300

DT: NON_QUANTITATIVE_CODE_TYPE

HBW1/1=Brinell Hardness by: ball Dia.=1 mm, F=9.807 N, time=10 to 15s.

HBW1/10=Brinell Hardness by: ball Dia.=1 mm, F=98.07 N, time=10 to 15s.

HBW1/2.5=Brinell Hardness by: ball Dia.=1 mm, F=24.52 N, time=10 to 15s.

HBW1/30=Brinell Hardness by: ball Dia.=1 mm, F=294.2 N, time=10 to 15s.

HBW1/5=Brinell Hardness by: ball Dia.=1 mm, F=49.03 N, time=10 to 15s.

HBW10/100=Brinell Hardness by: ball Dia.=10 mm, F=980.7 N, time=10 to 15s.

HBW10/1000=Brinell Hardness by: ball Dia.=10 mm, F=9807 N, time=10 to 15s.

HBW10/1500=Brinell Hardness by: ball Dia.=10 mm, F=14710 N, time=10 to 15s.

HBW10/250=Brinell Hardness by: ball Dia.=10 mm, F=2452 N, time=10 to 15s.

HBW10/3000=Brinell Hardness by: ball Dia.=10 mm, F=29421 N, time=10 to 15s.

HBW10/500=Brinell Hardness by: ball Dia.=10 mm, F=4903 N, time=10 to 15s.

HBW2.5/15.625=Brinell Hardness by: ball Dia.=2.5 mm, F=153.2 N, time=10 to 15s.

HBW2.5/187.5=Brinell Hardness by: ball Dia.=2.5 mm, F=1839 N, time=10 to 15s.

HBW2.5/31.25=Brinell Hardness by: ball Dia.=2.5 mm, F=306.5 N, time=10 to 15s.

HBW2.5/6.25=Brinell Hardness by: ball Dia.=2.5 mm, F=61.29 N, time=10 to 15s.

HBW2.5/62.5=Brinell Hardness by: ball Dia.=2.5 mm, F=612.9 N, time=10 to 15s.

HBW5/125=Brinell Hardness by: ball Dia.=5 mm, F=1226 N, time=10 to 15s.

HBW5/25=Brinell Hardness by: ball Dia.=5 mm, F=245.2 N, time=10 to 15s.

HBW5/250=Brinell Hardness by: ball Dia.=5 mm, F=2452 N, time=10 to 15s.

HBW5/62.5=Brinell Hardness by: ball Dia.=5 mm, F=612.9 N, time=10 to 15s.

HBW5/750=Brinell Hardness by: ball Dia.=5 mm, F=7355 N, time=10 to 15s.

HR15N=Rockwell hardness, 15N scale, diamond cone indenter.

HR15TS=Rockwell hardness, 15T scale, steel ball indenter.

HR15TW=Rockwell hardness, 15T scale, hardmetal ball indenter.

HR30N=Rockwell hardness, 30N scale, diamond cone indenter.

HR30TS=Rockwell hardness, 30T scale, steel ball indenter.

HR30TW=Rockwell hardness, 30T scale, hardmetal ball indenter.

HR45N=Rockwell hardness, 45N scale, diamond cone indenter.

HR45TS=Rockwell hardness, 45T scale, steel ball indenter.

HR45TW=Rockwell hardness, 45T scale, hardmetal ball indenter.

HRA=Rockwell hardness, A scale, diamond cone indenter.

HRBS=Rockwell hardness, B scale, steel ball indenter.

HRBW=Rockwell hardness, B scale, hardmetal ball indenter.

HRC=Rockwell hardness, C scale, diamond cone indenter.

HRD=Rockwell hardness, D scale, diamond cone indenter.

HRES=Rockwell hardness, E scale, steel ball indenter.

HREW=Rockwell hardness, E scale, hardmetal ball indenter.

HRFS=Rockwell hardness, F scale, steel ball indenter.

HRFW=Rockwell hardness, F scale, hardmetal ball indenter.

HRGS=Rockwell hardness, G scale, steel ball indenter.

HRGW=Rockwell hardness, G scale, hardmetal ball indenter.

HRHS=Rockwell hardness, H scale, steel ball indenter.

HRHW=Rockwell hardness, H scale, hardmetal ball indenter.

HRKS=Rockwell hardness, K scale, steel ball indenter.

HRKW=Rockwell hardness, K scale, hardmetal ball indenter.

HV0.01=Vickers hardness, $F=0.09807\text{ N}$, time=10 to 15s.

HV0.015=Vickers hardness, $F=0.1471\text{ N}$, time=10 to 15s.

HV0.02=Vickers hardness, $F=0.1961\text{ N}$, time=10 to 15s.

HV0.025=Vickers hardness, $F=0.2452\text{ N}$, time=10 to 15s.

HV0.05=Vickers hardness, $F=0.4903\text{ N}$, time=10 to 15s.

HV0.1=Vickers hardness, $F=0.9807\text{ N}$,

time=10 to 15s.

HV0.2=Vickers hardness, $F=1.961\text{ N}$, time=10 to 15s.

HV0.3=Vickers hardness, $F=2.942\text{ N}$, time=10 to 15s.

HV0.5=Vickers hardness, $F=4.903\text{ N}$, time=10 to 15s.

HV1=Vickers hardness, $F=9.807\text{ N}$, time=10 to 15s.

HV10=Vickers hardness, $F=98.07\text{ N}$, time=10 to 15s.

HV100=Vickers hardness, $F=980.7\text{ N}$, time=10 to 15s.

HV2=Vickers hardness, $F=19.61\text{ N}$, time=10 to 15s.

HV20=Vickers hardness, $F=196.1\text{ N}$, time=10 to 15s.

HV3=Vickers hardness, $F=29.42\text{ N}$, time=10 to 15s.

HV30=Vickers hardness, $F=294.2\text{ N}$, time=10 to 15s.

HV5=Vickers hardness, $F=49.03\text{ N}$, time=10 to 15s.

HV50=Vickers hardness, $F=490.4\text{ N}$, time=10 to 15s.

PTC: A57

SDD: ISO 6506-1:1999, ISO 6507-1:1999, ISO 6508-1:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA346-1 001

major diameter of external thread

Definition: diameter of an imaginary cylindrical surface tangent to the crests of an external thread

DC: P511AAA038 metric external thread

PLS: d

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA347-1 001

pitch diameter of external thread

Definition: diameter of an imaginary cylinder, the external surface of which cuts a external thread where the widths of the ridge and the groove of the thread(s) are equal

DC: P511AAA038 metric external thread

PLS: d2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03
SDD: ISO 68-1:1998
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA348-1 001

minor diameter of external thread

Definition: diameter of an imaginary cylindrical surface tangent to the roots of an external thread

DC: P511AAA038 metric external thread

PLS: d1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA349-1 001

outer diameter

Definition: major diameter of tapping screw thread or wood screw thread (nominal diameter)

DC: P511AAA037 thread

PLS: d1

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1478:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA350-1 001

core diameter

Definition: minor diameter of tapping screw thread or wood screw thread (minimum diameter)

DC: P511AAA037 thread

PLS: d2

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1478:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA351-1 001

washer picture

Definition: identification of washer picture, especially for non-standardized washer

DC: P511AAA072 washer

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_

ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA352-1 001

duty level

Definition: shear capacity of pin

DC: P511AAA357 spring pin

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

HEAVY=Heavy duty

LIGHT=Light duty

NORMAL=Normal duty

PTC: A52

Remark: this property is intended to be used for ISO

8748:1997/ISO8750:1997/ISO8751:1997/ISO8752:1997/ISO 13337:1997 etc.

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA353-1 001

shear strength, double

Definition: minimum load to fracture when a tested pin is subjected to a double shear load using a suitable test fixture in a testing machine, according to ISO 8749

DC: P511AAA098 pin

Unit: KN

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA355-1 001

mid height

Definition: middle height of square taper washer

DC: P511AAA237 square taper washer

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA356-1 001

side length

Definition: side length of taper square washer

DC: P511AAA237 square taper washer

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE
PTC: T03
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA357-1 001

transition diameter

Definition: diameter of the bearing face at the transition to the under head radius

DC: P511AAA004 externally threaded fastener component

PLS: da/da1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983, ISO 7379:1983

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA358-1 001

pitch diameter of internal thread

Definition: diameter of an imaginary cylinder, the external surface of which cuts a internal thread where the widths of the ridge and the groove of the thread(s) are equal

DC: P511AAA344 metric internal thread

PLS: D2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA359-1 001

minor diameter of internal thread

Definition: diameter of an imaginary cylindrical surface tangent to the crests of an internal thread

DC: P511AAA344 metric internal thread

PLS: D1

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA360-1 001

major diameter of internal thread

Definition: diameter of an imaginary cylindrical surface tangent to the roots of an internal thread

DC: P511AAA344 metric internal thread

PLS: D

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 68-1:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA362-1 001

chamfer angle on the end of pin

Definition: angle of chamfer on the end of pin

DC: P511AAA098 pin

PLS: alpha

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8746:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA363-1 001

length of cone of pilot point with truncated cone

Definition: length of truncated cone of the pilot point with truncated cone

DC: P511AAA350 truncated pilot point

PLS: z5

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4753:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA364-1 001

diameter of the pilot point

Definition: diameter of the cylindrical portion of the pilot point

DC: P511AAA028 end

PLS: dx

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4753:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA365-1 001

transition diameter of shoulder

Definition: diameter of shoulder face at the transition to undercut radius

DC: P511AAA129 shoulder

PLS: da2

Unit: mm

VF: NR2..3.3
 DT: REAL_MEASURE_TYPE
 PTC: T03
 SDD: ISO 7379:1983
 DOD: 2006-02-22 DCV: 2006-02-22
 DCR: 2006-02-22

P511BAA367-1 001

length of split pin

Definition: distance between the head and the end of the shorter leg

DC: P511AAA248 split pin

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1234:1997

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA368-1 001

head angle (countersunk angle)

Definition: angle of conical bearing face

DC: P511AAA008 head

PLS: alpha

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA369-1 001

length of bolt/screw (flat seating head)

Definition: distance between the bearing surface and the end of the bolt/screw

DC: P511AAA004 externally threaded fastener component

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA370-1 001

length of countersunk bolt/screw

Definition: distance from the top of the head to the end of the bolt/screw

DC: P511AAA004 externally threaded fastener component

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA371-1 001

stud length

Definition: distance from the thread run-out of the metal end to the end of the nut end

DC: P511AAA049 stud

PLS: l

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 225:1983

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA376-1 001

height of the raised portion of raised countersunk head

Definition: height of the raised portion of raised countersunk head

DC: P511AAA020 raised countersunk head

PLS: f

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15483:1999

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA377-1 001

radius of curvature at the hexagon / washer junction

Definition: radius of curvature at the hexagon / washer (collar) junction

DC: P511AAA217 hexagon head with collar

PLS: r2

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15480:1999

DOD: 2006-02-22 DCV: 2006-02-22

DCR: 2006-02-22

P511BAA378-1 001

diameter of face

Definition: diameter of face of set screws at the end with internal drive

DC: P511AAA186 set screw

PLS: df

Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 225:1983
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA380-1 001

countersink angle

Definition: countersink angle

DC: P511AAA052 nut

PLS: theta

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 7042:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA381-1 001

angle of the nut chamfer

Definition: angle of chamfer of nut face

DC: P511AAA052 nut

PLS: beta

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 7042:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA382-1 001

depth of axial undercut

Definition: distance between the bearing face and the bottom of the undercut in the axial direction that may exist in an externally threaded fastener

DC: P511AAA081 hexagon head bolt with flange with fine pitch thread, full shank

PLS: v

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 10644:1998

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA383-1 001

transition diameter of axial undercut

Definition: inner diameter of the bearing face resulting from an axial undercut that may exist in externally threaded fastener

DC: P511AAA005 metric threaded bolt/screw

PLS: da2/da

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 10644:1998, ISO 15072:1999

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA386-1 001

thread length of nut end

Definition: length of the thread of the nut end of a stud

DC: P511AAA049 stud

PLS: b

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 4759:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA387-1 001

nut name

Definition: name of nut, especially for non-standardized nut

DC: P511AAA052 nut

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard nut

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA388-1 001

nut picture

Definition: identification of nut picture, especially for non-standardized nut

DC: P511AAA052 nut

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICIT_SCHEMA.PROPERTY_VALUE_EXTERNAL_ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard nut

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA389-1 001

pin head name

Definition: name of head shape for non-

standardized pin

DC: P511AAA098 pin

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA390-1 001

pin head picture

Definition: head shape picture for non-standardized pin

DC: P511AAA098 pin

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA391-1 001

pin shank name

Definition: name of shank for non-standardized pin

DC: P511AAA098 pin

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA392-1 001

pin shank picture

Definition: shank shape picture for non-standardized pin

DC: P511AAA098 pin

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA393-1 001

pin end name

Definition: name of shape for non-standardized pin

DC: P511AAA098 pin

Unit:

VF: M..128

DT: STRING_TYPE

PTC: A51

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA394-1 001

pin end picture

Definition: end shape picture for non-standardized pin

DC: P511AAA098 pin

Unit:

VF:

ISO13584_25_IEC61360_5_LIBRARY_IMPLICI
T_SCHEMA.PROPERTY_VALUE_EXTERNAL_
ITEM

DT: ENTITY_INSTANCE_TYPE

PTC: A58

Remark: this property is intended to be used for non-standard pin

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA395-1 001

incomplete thread length of pin with external thread

Definition: length of incomplete thread over the end of pin with external thread

DC: P511AAA251 taper pin with external thread

PLS: u

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 8737:1986, ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA396-1 001

chamfer height on the head of pin

Definition: height of the chamfer on the head of pin

DC: P511AAA255 clevis pin with head

PLS: e

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA397-1 001

chamfer angle on the head of pin

Definition: angle of chamfer on the head of pin

DC: P511AAA255 clevis pin with head

PLS: beta

Unit: Degree

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA398-1 001

grooving angle of grooved pin

Definition: angle of the groove on the grooved pin

DC: P511AAA356 grooved pin

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2341:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA399-1 001

head angle of grooved pin with countersunk head

Definition: angle of conical bearing face of grooved pin with countersunk head

DC: P511AAA260 grooved pin with countersunk head

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8747:1997, ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA400-1 001

length of set screw

Definition: length of set screw is the overall length (including end)

DC: P511AAA186 set screw

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 4027:2003

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA401-1 001

length of stud bolt

Definition: the length of stud bolt is overall length

DC: P511AAA099 stud bolt

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 1891:1979 clause 21.6

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA402-1 001

length of headless screw with shank

Definition: overall length of headless screw with shank

DC: P511AAA354 headless screw with shank

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2342:1972

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA403-1 001

length of clevis pin with head

Definition: distance between bearing face and the end of clevis pin

DC: P511AAA355 clevis pin

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2341:1986, ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA404-1 001

length of clevis pin without head

Definition: overall length of clevis pin

DC: P511AAA355 clevis pin

PLS: l

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2340:1997, ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA405-1 001

length of grooved pin without head

Definition: overall length of grooved pin

DC: P511AAA356 grooved pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8744:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA406-1 001

length of grooved pin with flat seating head

Definition: distance between bearing face and the end of grooved pin

DC: P511AAA356 grooved pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8746:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA407-1 001

length of grooved pin with countersunk head

Definition: distance from the top of the head and the end of grooved pin

DC: P511AAA356 grooved pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8747:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA408-1 001

length of parallel pin

Definition: overall length of parallel pin

DC: P511AAA252 parallel pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2338:1997, ISO 8749:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA409-1 001

length of spring pin

Definition: overall length of spring pin

DC: P511AAA357 spring pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 8748:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA410-1 001

length of taper pin

Definition: overall length of taper pin

DC: P511AAA358 taper pin

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 2339:1986

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA411-1 001

length of rivet with flat seating head

(protruding head)

Definition: distance from head bearing face to the end of rivet shank

DC: P511AAA345 rivet

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 15973:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA412-1 001

length of the rivet with countersunk head

Definition: distance from top of countersunk head to the end of rivet shank

DC: P511AAA345 rivet

PLS: I

Unit: mm

VF: NR2..3.3

DT: LEVEL_TYPE

PTC: T03

SDD: ISO 15974:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA414-1 001

pin diameter

Definition: diameter of pin shank

DC: P511AAA098 pin
PLS: d/d1
Unit: mm
VF: NR2..3.3
DT: REAL_MEASURE_TYPE
PTC: T03
SDD: ISO 2340:1997
DOD: 2006-02-22 **DCV:** 2006-02-22
DCR: 2006-02-22

P511BAA415-1 001

rivet diameter

Definition: diameter of rivet shank

DC: P511AAA345 rivet

PLS: d

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

SDD: ISO 15973:2000

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA416-1 001

thread length of nut

Definition: the length of thread

DC: P511AAA052 nut

PLS: m

Unit: mm

VF: NR2..3.3

DT: REAL_MEASURE_TYPE

PTC: T03

Note: in most cases the thread length (m), which is essential for nut stripping strength, is equal to the nut height (m), however, for prevailing torque type nuts where the thread length (m) is less than the nut height(h)

SDD: ISO 12126:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

P511BAA417-1 001

stainless steel fastener hardness class

Definition: identification code representing a hardness range for stainless steel fasteners

DC: P511AAA002 fastener

Unit:

VF: M..30

DT: NON_QUANTITATIVE_CODE_TYPE

12H=stainless steel fastener hardness class
12H

21H=stainless steel fastener hardness class
21H

PTC: A57

SDD: ISO 3506-3:1997

DOD: 2006-02-22 **DCV:** 2006-02-22

DCR: 2006-02-22

Annex E (normative)

Classification mechanism

E.1 Classification property DETs and values

Table E.1 specifies classification properties and their values used in this part of ISO 13584.

Table E.1 — Classification property DETs and values

Code	Preferred name	Values	Indicated subclasses
P511BAA303	type of head	12PFL	12 point flange head
		BUT	button head
		CHD	cup head
		CHS	cheese head
		CLD	cylindrical head
		COT	countersunk head
		CRAI	cheese raised head
		ELS	eyelet shape head
		EYS	eye shape head
		HEWF	hexagon head with flange
		HEX	hexagon head
		HEXO	hexagon head with collar
		HEXW	hexagon head with washer face
		HWK	head with knurl
		HWW	head with wings
		OTN	octagonal head
		PAN	pan head

Code	Preferred name	Values	Indicated subclasses
		RADC	raised countersunk head
		ROH	round head
		SQEC	square head with collar
		SQR	square head
		THD	t-head
		TOM	head with tommy
		TRIC	triangle head with collar
P511BAA305	type of shank	FIT	fit shank
P511BAA306	type of end	FLS	full shank
		RDD	Reduced shank
		SHD	shoulder shank
		SQN	shank with square neck
		WID	waisted shank
		ARE	as-rolled end
		CET	flat end, type F of tapping screw
		CFE	chamfered end
		CON	cone end, type C of tapping screw
		CPP	cup point
		CPT	cone point
		DGP	dog point
		DRD	drilling point of drilling screw
		EOT	end of thread forming screw
		FLA	flat point
		PIP	pilot point
		RDE	rounded end
		ROU	rounded end, type R of tapping screw
		SCP	scrape point
		TCP	truncated cone point

Code	Preferred name	Values	Indicated subclasses
		TPP	truncated pilot point
P511BAA307	type of thread	MEP	thread forming screw thread
		MET	metric external thread
		MIT	metric internal thread
		TST	tapping screw thread
		WST	wood screw thread
P511BAA308	type of internal drive	12 S	12 point socket
		CRH	cross hole
		CRR	cross recess type H
		CZT	cross recess type Z
		HXLS	hexalobular socket
		HXS	hexagon socket
		SLO	slot
		SQS	square socket
		SSS	six-spline socket
		TRS	triangle socket

E.2 Classification methodology and property reference mechanism

Table E.2 specifies the classification methodology by using the reference mechanism provided in ISO 13584-42.

Table E.2 — Classification methodology and property reference mechanism

mechanical component for general use

fastener
externally threaded fastener
externally threaded fastener component
drilling screw
P511BAA243 head properties(class_instance_type): P511AAA008
P511BAA245 end properties(class_instance_type): P511AAA028
P511BAA246 thread properties(class_instance_type): P511AAA037

			P511BAA247 internal drive properties(class_instance_type): P511AAA042
			cross recessed (type H) countersunk head drilling screw
			P511BAA303 type of head=COT
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CRR
			cross recessed (type H) pan head drilling screw
			P511BAA303 type of head=PAN
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CRR
			cross recessed (type H) raised countersunk drilling screw
			P511BAA303 type of head=RADC
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CRR
			cross recessed (type Z) countersunk head drilling screw
			P511BAA303 type of head=COT
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) pan head drilling screw with tapping screw thread
			P511BAA303 type of head=PAN
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) raised countersunk head drilling screw
			P511BAA303 type of head=RADC

			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			hexagon washer head drilling screw
			P511BAA303 type of head=HEXO
			P511BAA306 type of end=DRD
			P511BAA307 type of thread=TST
			headless screw with shank
			P511BAA244 shank properties(class_instance_type): P511AAA024
			P511BAA245 end properties(class_instance_type): P511AAA028
			P511BAA246 thread properties(class_instance_type): P511AAA037
			P511BAA247 internal drive properties(class_instance_type): P511AAA042
			slotted headless screw with shank
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			metric threaded bolt/screw
			P511BAA243 head properties(class_instance_type): P511AAA008
			P511BAA244 shank properties(class_instance_type): P511AAA024
			P511BAA245 end properties(class_instance_type): P511AAA028
			P511BAA246 thread properties(class_instance_type): P511AAA037
			P511BAA247 internal drive properties(class_instance_type): P511AAA042
			countersunk flat head screw with cross recess (type H)
			P511BAA303 type of head=COT
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CRR
			countersunk flat head screw with cross recess (type Z)

			P511BAA303 type of head=COT
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CZT
			cross recessed (type H) cheese head screw
			P511BAA303 type of head=CHS
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CRR
			cross recessed (type H) pan head screw
			P511BAA303 type of head=PAN
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CRR
			cross recessed (type Z) cheese head screw
			P511BAA303 type of head=CHS
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) pan head screw
			P511BAA303 type of head=PAN
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CZT
			cup head square neck bolt
			P511BAA303 type of head=CHD
			P511BAA305 type of shank=SQN
			P511BAA307 type of thread=MET

			cup head square neck bolt with large head
			P511BAA303 type of head=CHD
			P511BAA305 type of shank=SQN
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			hexagon head bolt
			P511BAA303 type of head=HEXW
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			hexagon head bolt with flange with fine pitch thread, full shank
			P511BAA303 type of head=HEWF
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=CFE
			P511BAA307 type of thread=MET
			hexagon head bolt with flange with fine pitch thread, reduced shank
			P511BAA303 type of head=HEWF
			P511BAA305 type of shank=RDD
			P511BAA306 type of end=CFE
			P511BAA307 type of thread=MET
			hexagon head bolt with flange, full shank
			P511BAA303 type of head=HEWF
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			hexagon head bolt with flange, reduced shank
			P511BAA303 type of head=HEWF
			P511BAA305 type of shank=RDD

			P511BAA306 type of end=CFE
			P511BAA307 type of thread=MET
			hexagon head bolt with metric fine pitch thread
			P511BAA303 type of head=HEXW
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=CFE
			P511BAA307 type of thread=MET
			hexagon head screw
			P511BAA303 type of head=HEXW
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			hexagon head screw with metric fine pitch thread
			P511BAA303 type of head=HEXW
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=CFE
			P511BAA307 type of thread=MET
			hexagon socket button head screw
			P511BAA303 type of head=BUT
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket countersunk head screw
			P511BAA303 type of head=COT
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS

			hexagon socket head cap screw
			P511BAA303 type of head=CLD
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket head cap screw with metric fine pitch thread
			P511BAA303 type of head=CLD
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket head shoulder screw
			P511BAA303 type of head=BUT
			P511BAA305 type of shank=SHD
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexalobular socket cheese head screw
			P511BAA303 type of head=CHS
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXLS
			hexalobular socket head cap screw
			P511BAA303 type of head=CLD
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXLS

			hexalobular socket pan head screw
			P511BAA303 type of head=PAN
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXLS
			hexalobular socket raised countersunk head screw
			P511BAA303 type of head=RADC
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXLS
			octagon head bolt
			P511BAA303 type of head=OTN
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			raised countersunk head screw with cross recess (type H)
			P511BAA303 type of head=RADC
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CRR
			raised countersunk head screw with cross recess (type Z)
			P511BAA303 type of head=RADC
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=CZT
			slotted cheese head screw
			P511BAA303 type of head=CHS
			P511BAA306 type of end=ARE

			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted countersunk flat head screw
			P511BAA303 type of head=COT
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted pan head screw
			P511BAA303 type of head=PAN
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted raised countersunk head screw
			P511BAA303 type of head=RADC
			P511BAA306 type of end=ARE
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			square head bolt
			P511BAA303 type of head=SQR
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			square head bolt with collar
			P511BAA303 type of head=SQEC
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			T-head bolt

			P511BAA303 type of head=THD
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			triangle head bolt
			P511BAA303 type of head=TRIC
			P511BAA305 type of shank=FLS
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			set screw
			P511BAA245 end properties(class_instance_type): P511AAA028
			P511BAA246 thread properties(class_instance_type): P511AAA037
			P511BAA247 internal drive properties(class_instance_type): P511AAA042
			hexagon socket set screw with cone point
			P511BAA306 type of end=TCP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket set screw with cup point
			P511BAA306 type of end=CPP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket set screw with dog point
			P511BAA306 type of end=DGP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=HXS
			hexagon socket set screw with flat point
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET

			P511BAA308 type of internal drive=HXS
			slotted set screw with cone point
			P511BAA306 type of end=TCP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted set screw with cup point
			P511BAA306 type of end=CPP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted set screw with flat point
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
			slotted set screw with long dog point
			P511BAA306 type of end=DGP
			P511BAA307 type of thread=MET
			P511BAA308 type of internal drive=SLO
		stud	
			P511BAA244 shank properties(class_instance_type): P511AAA024
			P511BAA245 end properties(class_instance_type): P511AAA028
			P511BAA246 thread properties(class_instance_type): P511AAA037
			stud with full shank
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
		waisted stud	
			P511BAA306 type of end=FLA
			P511BAA307 type of thread=MET
		stud bolt	

		P511BAA246 thread properties(class_instance_type): P511AAA037
		tapping screw
		P511BAA243 head properties(class_instance_type): P511AAA008
		P511BAA245 end properties(class_instance_type): P511AAA028
		P511BAA246 thread properties(class_instance_type): P511AAA037
		P511BAA247 internal drive properties(class_instance_type): P511AAA042
		cross recessed (type H) countersunk head tapping screw with a cone end
		P511BAA303 type of head=COT
		P511BAA306 type of end=CON
		P511BAA307 type of thread=TST
		P511BAA308 type of internal drive=CRR
		cross recessed (type H) countersunk head tapping screw with a flat end
		P511BAA303 type of head=COT
		P511BAA306 type of end=CET
		P511BAA307 type of thread=TST
		P511BAA308 type of internal drive=CRR
		cross recessed (type H) pan head tapping screw with a cone end
		P511BAA303 type of head=PAN
		P511BAA306 type of end=CON
		P511BAA307 type of thread=TST
		P511BAA308 type of internal drive=CRR
		cross recessed (type H) pan head tapping screw with a flat end
		P511BAA303 type of head=PAN
		P511BAA306 type of end=CET
		P511BAA307 type of thread=TST
		P511BAA308 type of internal drive=CRR
		cross recessed (type H) raised countersunk head tapping screw with a cone end

			P511BAA303 type of head=RADC
			P511BAA306 type of end=CON
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CRR
			cross recessed (type H) raised countersunk head tapping screw, flat end
			P511BAA303 type of head=RADC
			P511BAA306 type of end=CET
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CRR
			cross recessed (type Z) countersunk head tapping screw with a cone end
			P511BAA303 type of head=COT
			P511BAA306 type of end=CON
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) countersunk head tapping screw with a flat end
			P511BAA303 type of head=COT
			P511BAA306 type of end=CET
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) pan head tapping screw with a cone end
			P511BAA303 type of head=PAN
			P511BAA306 type of end=CON
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=CZT
			cross recessed (type Z) pan head tapping screw with a flat end
			P511BAA303 type of head=PAN
			P511BAA306 type of end=CET
			P511BAA307 type of thread=TST

				P511BAA308 type of internal drive=CZT
				cross recessed (type Z) raised countersunk head tapping screw with a cone end
				P511BAA303 type of head=RADC
				P511BAA306 type of end=CON
				P511BAA307 type of thread=TST
				P511BAA308 type of internal drive=CZT
				cross recessed (type Z) raised countersunk head tapping screw with a flat end
				P511BAA303 type of head=RADC
				P511BAA306 type of end=CET
				P511BAA307 type of thread=TST
				P511BAA308 type of internal drive=CZT
				hexagon flange head tapping screw with a cone end
				P511BAA303 type of head=HEWF
				P511BAA306 type of end=CON
				P511BAA307 type of thread=TST
				hexagon flange head tapping screw with a flat end
				P511BAA303 type of head=HEWF
				P511BAA306 type of end=CET
				P511BAA307 type of thread=TST
				hexagon head tapping screw with a cone end
				P511BAA303 type of head=HEX
				P511BAA306 type of end=CON
				P511BAA307 type of thread=TST
				hexagon head tapping screw with a flat end
				P511BAA303 type of head=HEX
				P511BAA306 type of end=CET
				P511BAA307 type of thread=TST

hexagon washer head tapping screw with a cone end

P511BAA303 type of head=HEXO

P511BAA306 type of end=CON

P511BAA307 type of thread=TST

hexagon washer head tapping screw with a flat end

P511BAA303 type of head=HEXO

P511BAA306 type of end=CET

P511BAA307 type of thread=TST

hexalobular socket countersunk head tapping screw with a cone end

P511BAA303 type of head=COT

P511BAA306 type of end=CON

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=HXLS

hexalobular socket countersunk head tapping screw with a flat end

P511BAA303 type of head=COT

P511BAA306 type of end=CET

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=HXLS

hexalobular socket countersunk head tapping screw with a rounded end

P511BAA303 type of head=COT

P511BAA306 type of end=ROU

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=HXLS

hexalobular socket pan head tapping screw with a cone end

P511BAA303 type of head=PAN

P511BAA306 type of end=CON

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=HXLS

			hexalobular socket pan head tapping screw with a flat end
			P511BAA303 type of head=PAN
			P511BAA306 type of end=CET
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=HXLS
			hexalobular socket pan head tapping screw with a rounded end
			P511BAA303 type of head=PAN
			P511BAA306 type of end=ROU
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=HXLS
			hexalobular socket raised countersunk head tapping screw with a cone end
			P511BAA303 type of head=RADC
			P511BAA306 type of end=CON
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=HXLS
			hexalobular socket raised countersunk head tapping screw with a flat end
			P511BAA303 type of head=RADC
			P511BAA306 type of end=CET
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=HXLS
			hexalobular socket raised countersunk head tapping screw with a rounded end
			P511BAA303 type of head=RADC
			P511BAA306 type of end=ROU
			P511BAA307 type of thread=TST
			P511BAA308 type of internal drive=HXLS
			slotted countersunk (flat) head tapping screw with a cone end
			P511BAA303 type of head=COT
			P511BAA306 type of end=CON

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

slotted countersunk(flat) head tapping screw with a flat end

P511BAA303 type of head=COT

P511BAA306 type of end=CET

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

slotted pan head tapping screw with a cone end

P511BAA303 type of head=PAN

P511BAA306 type of end=CON

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

slotted pan head tapping screw with a flat end

P511BAA303 type of head=PAN

P511BAA306 type of end=CET

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

slotted raised countersunk (oval) head tapping screw with a cone end

P511BAA303 type of head=RADC

P511BAA306 type of end=CON

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

slotted raised countersunk(oval) head tapping screw with a flat end

P511BAA303 type of head=RADC

P511BAA306 type of end=CET

P511BAA307 type of thread=TST

P511BAA308 type of internal drive=SLO

thread forming screw

		P511BAA243 head properties(class_instance_type): P511AAA008
		P511BAA244 shank properties(class_instance_type): P511AAA024
		P511BAA245 end properties(class_instance_type): P511AAA028
		P511BAA246 thread properties(class_instance_type): P511AAA037
		P511BAA247 internal drive properties(class_instance_type): P511AAA042
		wood screw
		P511BAA243 head properties(class_instance_type): P511AAA008
		P511BAA244 shank properties(class_instance_type): P511AAA024
		P511BAA245 end properties(class_instance_type): P511AAA028
		P511BAA246 thread properties(class_instance_type): P511AAA037
		P511BAA247 internal drive properties(class_instance_type): P511AAA042
		externally threaded fastener feature
		end
		Classification property: P511BAA306 type of end
		as-rolled end
		P511BAA306 type of end=ARE
		chamfered end
		P511BAA306 type of end=CFE
		cone end (type C) of tapping screw
		P511BAA306 type of end=CON
		cone point
		P511BAA306 type of end=CPT
		cup point
		P511BAA306 type of end=CPP
		dog point
		P511BAA306 type of end=DGP
		drilling point of drilling screw
		P511BAA306 type of end=DRD

			end of thread forming screw
			P511BAA306 type of end=EOT
			flat end (type F) of tapping screw
			P511BAA306 type of end=CET
			flat point
			P511BAA306 type of end=FLA
			pilot point
			P511BAA306 type of end=PIP
			rounded end
			P511BAA306 type of end=RDE
			rounded end (type R) of tapping screw
			P511BAA306 type of end=ROU
			scrape point
			P511BAA306 type of end=SCP
			truncated cone point
			P511BAA306 type of end=TCP
			truncated pilot point
			P511BAA306 type of end=TPP
			head
			Classification property: P511BAA303 type of head
			12 point flange head
			P511BAA303 type of head=12PFL
			button head
			P511BAA303 type of head=BUT
			cheese head
			P511BAA303 type of head=CHS
			countersunk head
			P511BAA303 type of head=COT

			cup head
			P511BAA303 type of head=CHD
			cylindrical head
			P511BAA303 type of head=CLD
			eye shape head
			P511BAA303 type of head=EYS
			eyelet shape head
			P511BAA303 type of head=ELS
			head with knurl
			P511BAA303 type of head=HWK
			head with tommy
			P511BAA303 type of head=TOM
			head with wings
			P511BAA303 type of head=HWW
			hexagon head
			P511BAA303 type of head=HEX
			hexagon head with collar
			P511BAA303 type of head=HEXO
			hexagon head with flange
			P511BAA303 type of head=HEWF
			hexagon head with washer face
			P511BAA303 type of head=HEXW
			octagonal head
			P511BAA303 type of head=OTN
			pan head
			P511BAA303 type of head=PAN
			raised cheese head
			P511BAA303 type of head=CRAI

raised countersunk head

P511BAA303 type of head=RADC

round head

P511BAA303 type of head=ROH

square head

P511BAA303 type of head=SQR

square head with collar

P511BAA303 type of head=SQEC

T-head

P511BAA303 type of head=THD

triangle head with collar

P511BAA303 type of head=TRIC

internal drive

Classification property: P511BAA308 type of internal drive

12 point socket

P511BAA308 type of internal drive=12 S

cross hole

P511BAA308 type of internal drive=CRH

cross recess (type H)

P511BAA308 type of internal drive=CRR

cross recess (type Z)

P511BAA308 type of internal drive=CZT

hexagon socket

P511BAA308 type of internal drive=HXS

hexalobular socket

P511BAA308 type of internal drive=HXLS

six-spline socket

P511BAA308 type of internal drive=SSS

		slot
		P511BAA308 type of internal drive=SLO
		square socket
		P511BAA308 type of internal drive=SQS
		triangle socket
		P511BAA308 type of internal drive=TRS
		shank
		Classification property: P511BAA305 type of shank
		fit shank
		P511BAA305 type of shank=FIT
		full shank
		P511BAA305 type of shank=FLS
		reduced shank
		P511BAA305 type of shank=RDD
		shank with square neck
		P511BAA305 type of shank=SQN
		shoulder
		P511BAA305 type of shank=SHD
		waisted shank
		P511BAA305 type of shank=WID
		nut
		P511BAA246 thread properties(class_instance_type): P511AAA037
		cap nut
		P511BAA307 type of thread=MIT
		domed cap(acorn) nut
		P511BAA307 type of thread=MIT
		hexagon castle nut
		P511BAA307 type of thread=MIT

hexagon nut (style 1)

P511BAA307 type of thread=MIT

hexagon nut with collar

P511BAA307 type of thread=MIT

hexagon nut with flange

P511BAA307 type of thread=MIT

hexagon nut(style 2)

P511BAA307 type of thread=MIT

hexagon thin nut (chamfered)

P511BAA307 type of thread=MIT

hexagon thin nut (unchamfered)

P511BAA307 type of thread=MIT

octagon nut

P511BAA307 type of thread=MIT

pentagon nut

P511BAA307 type of thread=MIT

prevailing torque type all-metal hexagon nut (style 1)

P511BAA307 type of thread=MIT

prevailing torque type all-metal hexagon nut (style 2)

P511BAA307 type of thread=MIT

prevailing torque type all-metal hexagon nut with flange

P511BAA307 type of thread=MIT

prevailing torque type hexagon nut with flange, with non-metallic insert

P511BAA307 type of thread=MIT

prevailing torque type hexagon nut with non-metallic insert (style 1)

P511BAA307 type of thread=MIT

prevailing torque type hexagon nut with non-metallic insert (style 2)

P511BAA307 type of thread=MIT

	round nut with holes in face
	P511BAA307 type of thread=MIT
	round nut with holes in side
	P511BAA307 type of thread=MIT
	round nut with knurl
	P511BAA307 type of thread=MIT
	round nut with slot in face
	P511BAA307 type of thread=MIT
	round nut with slots in side
	P511BAA307 type of thread=MIT
	slotted hexagon nut
	P511BAA307 type of thread=MIT
	square nut
	P511BAA307 type of thread=MIT
	square nut with collar
	P511BAA307 type of thread=MIT
	triangle nut with collar
	P511BAA307 type of thread=MIT
	wing nut
	P511BAA307 type of thread=MIT
pin	
	clevis pin
	clevis pin with head
	clevis pin without head
	grooved pin
	grooved pin with countersunk head
	grooved pin with round head
	grooved pin, full-length parallel grooved, with chamfer

		grooved pin, full-length parallel grooved, with pilot
		grooved pin, full-length taper grooved
		grooved pin, half-length centre grooved
		grooved pin, half-length reverse taper grooved
		grooved pin, half-length taper grooved
		grooved pin, one-third-length centre grooved
	parallel pin	
		P511BAA246 thread properties(class_instance_type): P511AAA037
		parallel pin with internal thread
		P511BAA307 type of thread=MIT
	split pin	
	spring pin	
		spring-type straight pin, coiled
		spring-type straight pin, slotted
	taper pin	
		P511BAA246 thread properties(class_instance_type): P511AAA037
		simple taper pin
		taper pin with external thread
		P511BAA307 type of thread=MET
		taper pin with internal thread
		P511BAA307 type of thread=MIT
	rivet	
	blind rivet	
		closed end blind rivet with break pull mandrel and countersunk head
		closed end blind rivet with break pull mandrel and protruding head
		open end blind rivet with break pull mandrel and countersunk head
		open end blind rivet with break pull mandrel and protruding head
	full shank rivet	

	semi tubular rivet
	tubular rivet
washer	
	lock washer
	countersunk lock washer with external teeth
	countersunk serrated lock washer with external teeth
	lock washer with external teeth
	lock washer with internal teeth
	serrated lock washer with external teeth
	serrated lock washer with internal teeth
	plain washer
	plain washer with double chamfers
	plain washer with outside chamfer
	plain washer with square hole
	plain washer without chamfer
	square washer with round hole
	spring washer
	conical spring washer
	curved spring washer
	spring lock washer
	wave spring washer
	square taper washer
	tab washer
	external tab washer
	internal tab washer
	tab washer with long tab
	tab washer with long tab and wing
thread	

Classification property: P511BAA307 type of thread

metric external thread

P511BAA307 type of thread=MET

metric internal thread

P511BAA307 type of thread=MIT

tapping screw thread

P511BAA307 type of thread=TST

thread forming screw thread

P511BAA307 type of thread=MEP

wood screw thread

P511BAA307 type of thread=WST

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Annex F (normative)

Computer sensible representation of the fastener dictionary

A computer sensible representation of the reference dictionary defined in this part of ISO 13584 is provided as an electronic file for computer reference.

This electronic file complies with the library integrated information model 25 defined in ISO 13584-25, conformance class 2. This physical file uses the implementation method defined in ISO 10303-21.

This electronic file can be downloaded from the following Internet location.

CNIS: http://www.cnis.gov.cn/dmis/sc4/plib511/iso13584_p511_fasteners.zip

PLIB Website:
http://www.plib.ensma.fr/plib/datas/p511_fasteners/iso13584_part511_fasteners.zip

SC4ONLINE:
http://www.tc184-sc4.org/parts/iso13584_part511_fasteners.zip

From the computer sensible representation of the dictionary, a DHTML version has been generated. It can be found at the following addresses:

CNIS: http://www.cnis.gov.cn/dmis/sc4/plib511/iso13584_p511_html_viewer.html

PLIB Website:
http://www.plib.ensma.fr/plib/datas/p511_fasteners/viewer/iso13584_part511_html_viewer.html

SC4ONLINE:
http://www.tc184-sc4.org/parts/iso13584_part511_html_viewer.html

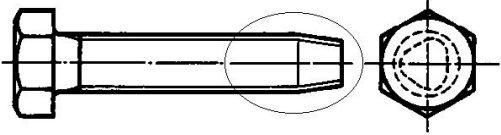
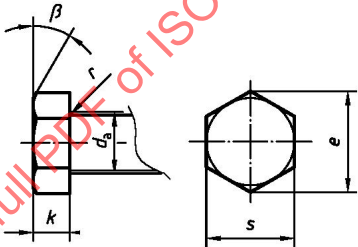
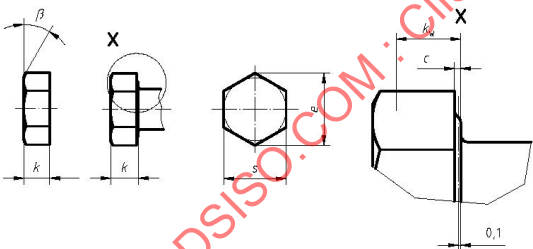
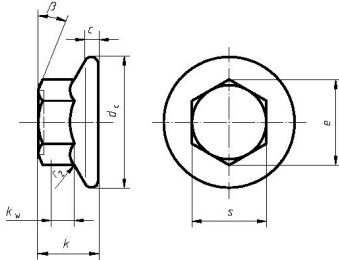
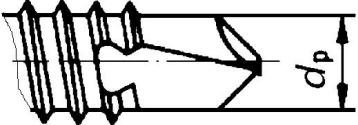
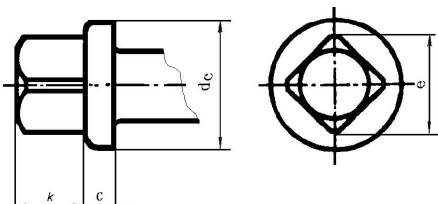
Annex G

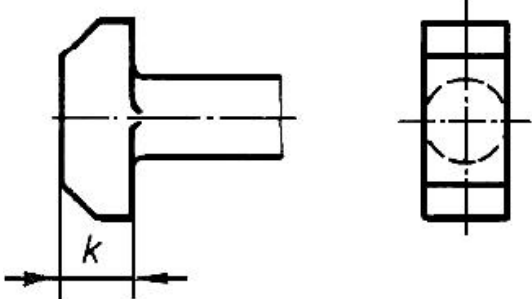
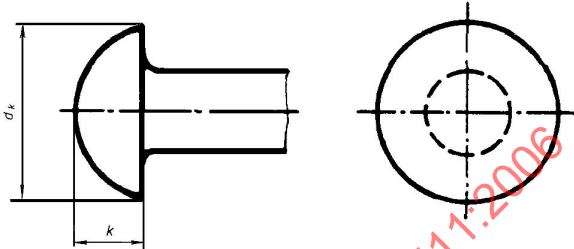
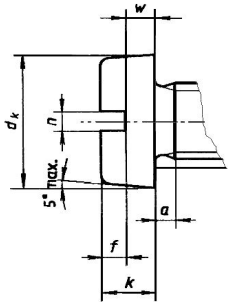
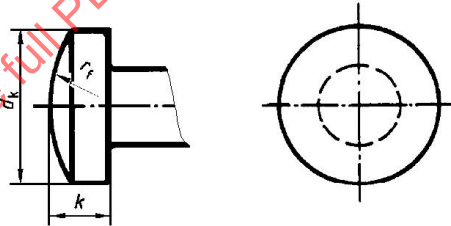
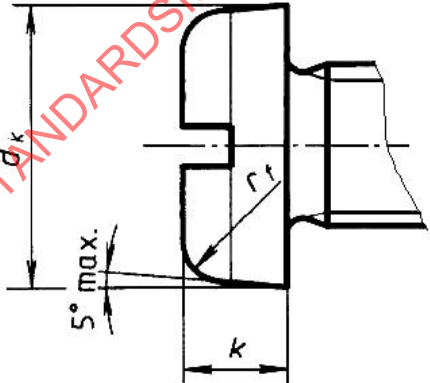
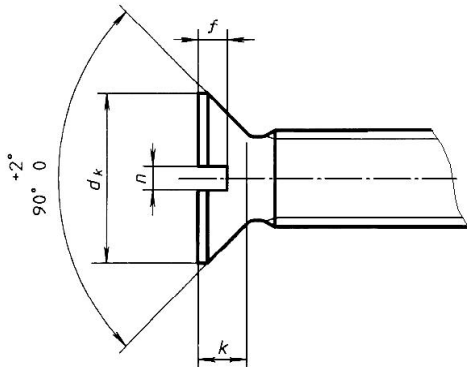
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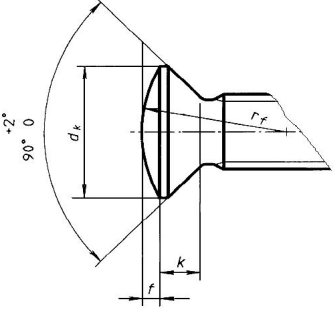
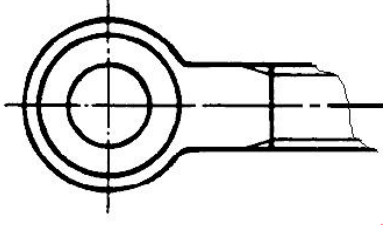
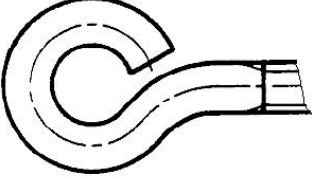
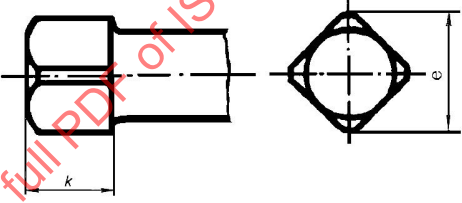
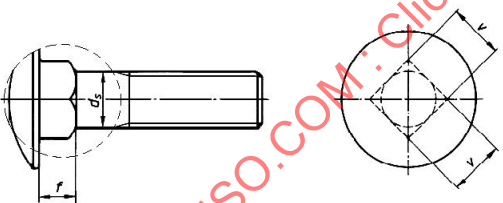
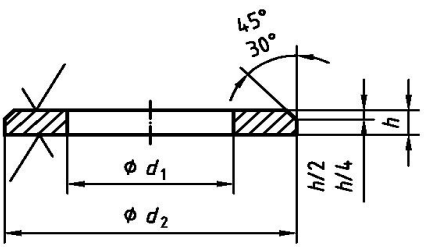
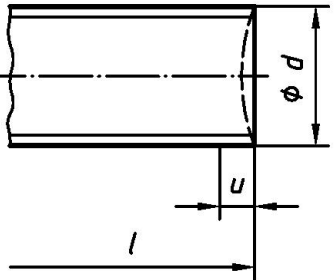
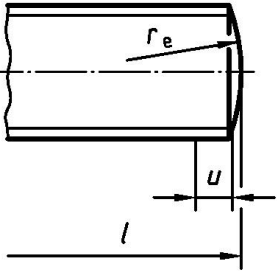
Simplified drawings of feature classes, component classes and some properties

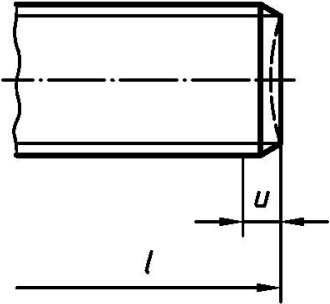
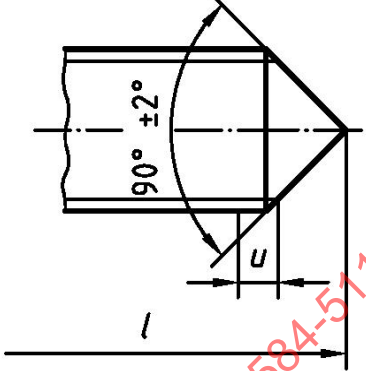
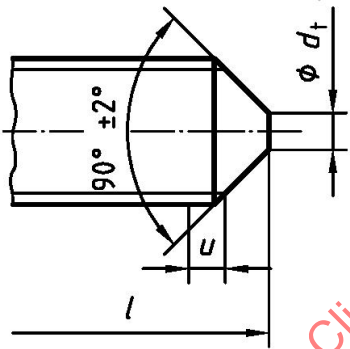
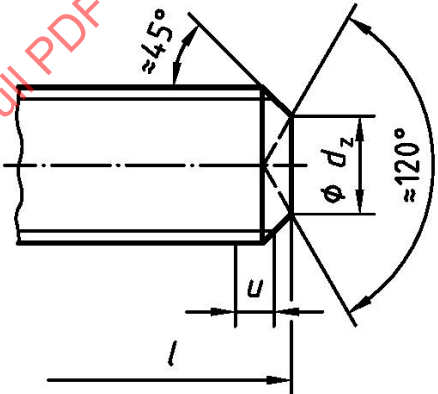
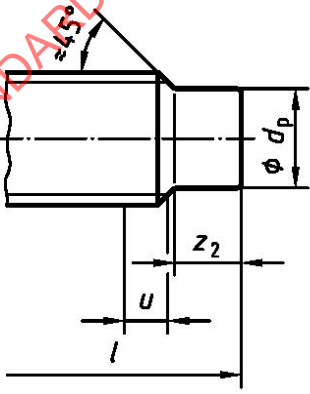
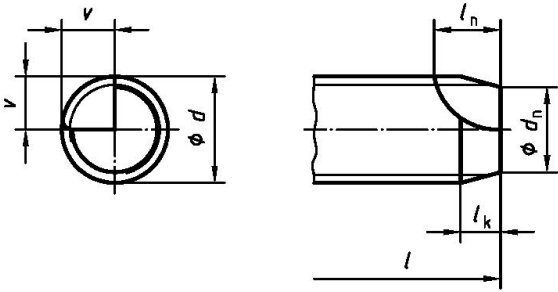
Table G.1 specifies a set of simplified drawings of feature classes, component classes and properties defined in this part of ISO 13584.

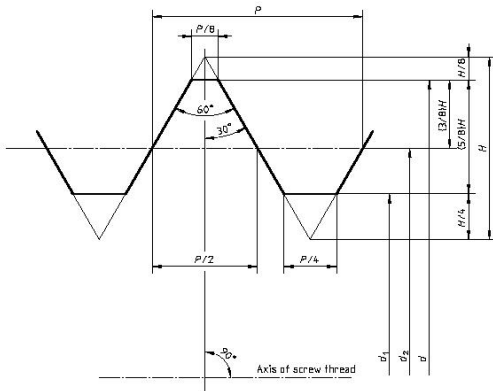
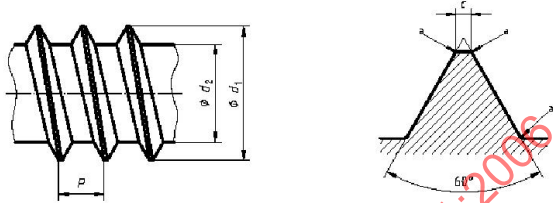
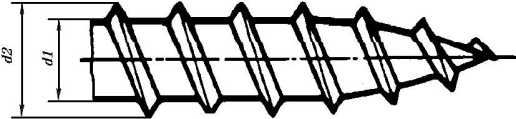
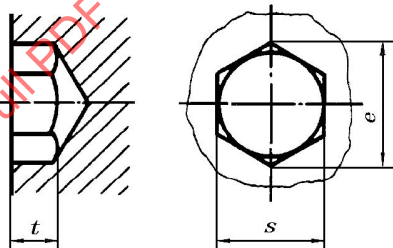
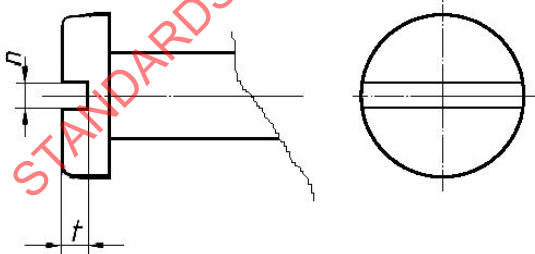
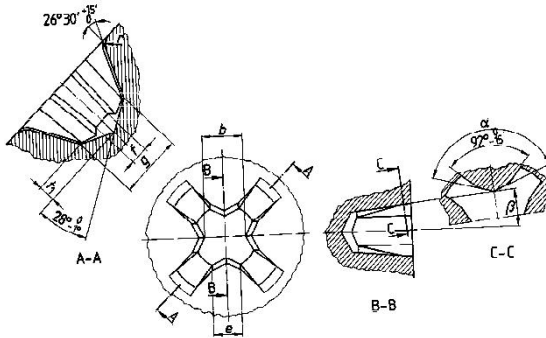
Table G.1 — Simplified drawings of classes

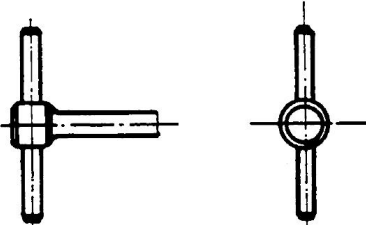
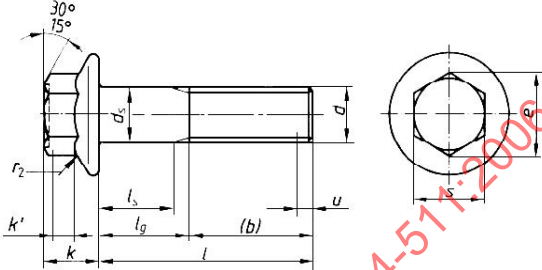
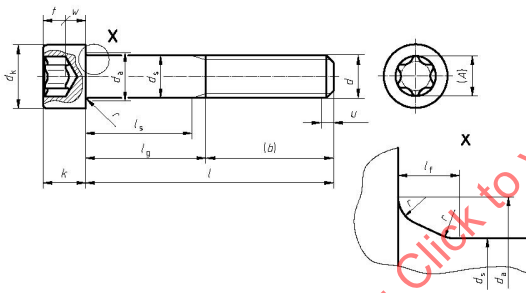
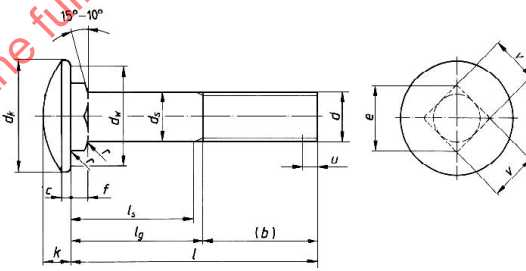
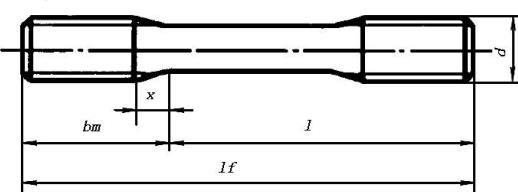
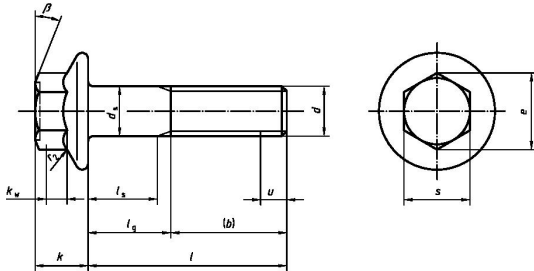
Code	Preferred Name	Code	Preferred Name
P511AAA006	end of thread forming screw	P511AAA009	hexagon head
			
P511AAA010	hexagon head with washer face	P511AAA011	hexagon head with flange
			
P511AAA012	drilling point of drilling screw	P511AAA013	square head with collar
			

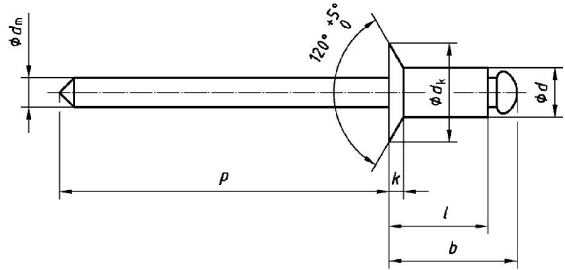
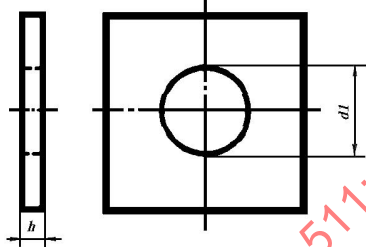
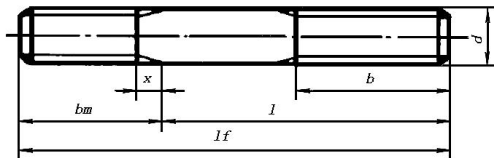
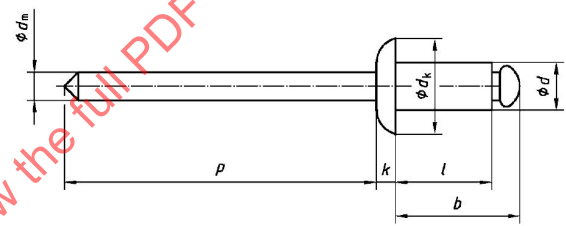
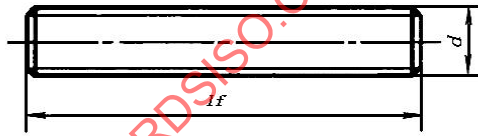
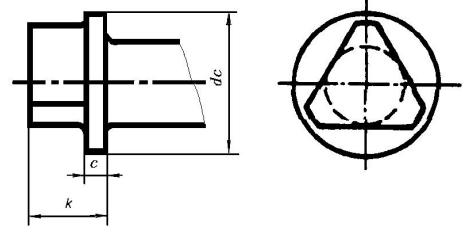
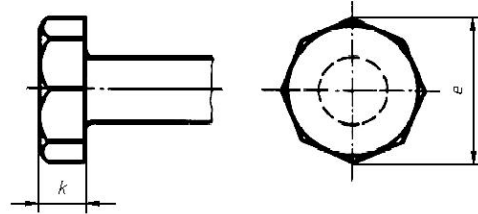
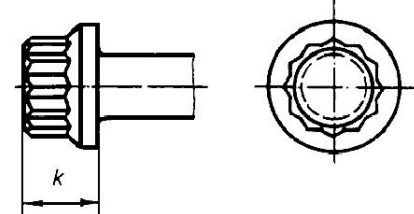
Code	Preferred Name	Code	Preferred Name
P511AAA014	T-head	P511AAA015	round head
			
P511AAA016	cheese head	P511AAA017	cheese raised head
			
P511AAA018	pan head	P511AAA019	countersunk head
			

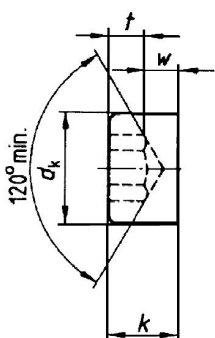
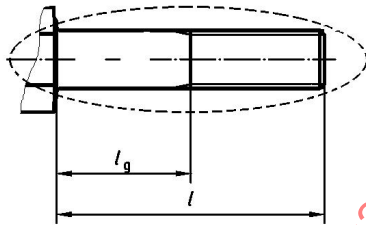
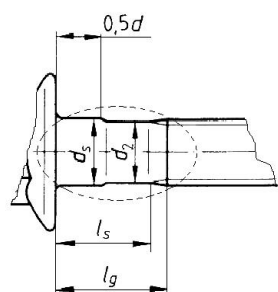
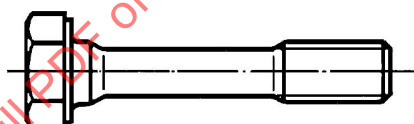
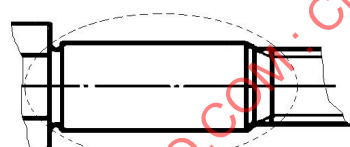
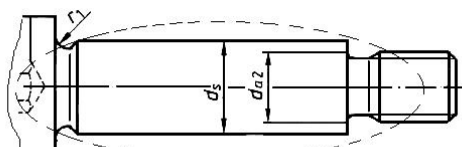
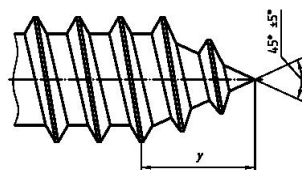
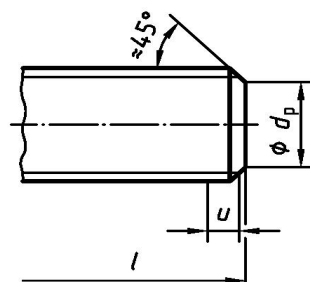
Code	Preferred Name	Code	Preferred Name
P511AAA020	raised countersunk head	P511AAA021	eye shape head
			
P511AAA022	eyelet shape head	P511AAA023	square head
			
P511AAA025	shank with square neck	P511AAA027	plain washer with outside chamfer
			
P511AAA029	as-rolled end	P511AAA030	rounded end
			

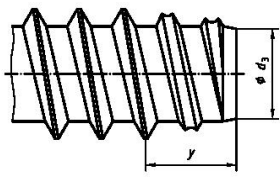
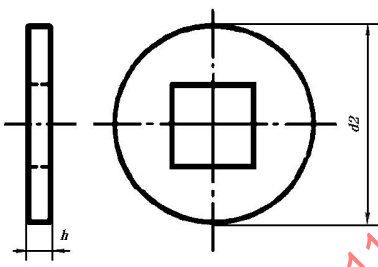
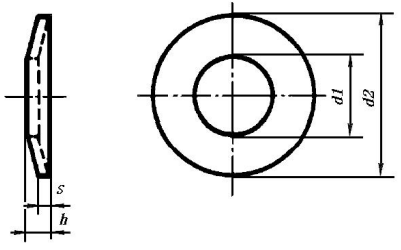
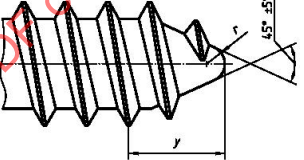
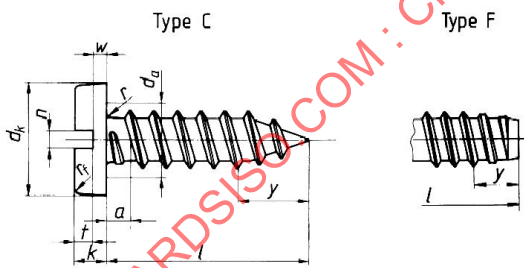
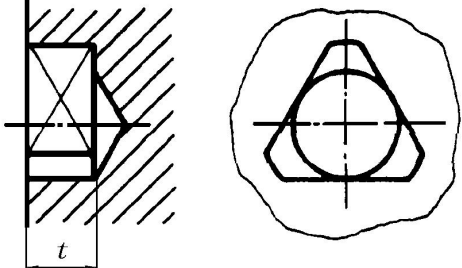
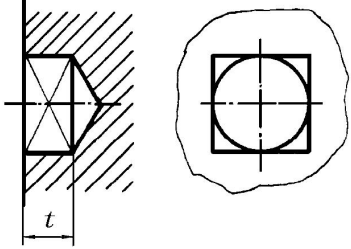
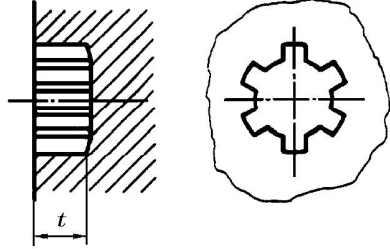
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P511AAA031	chamfered end	P511AAA032	cone point
			
P511AAA033	truncated cone point	P511AAA034	cup point
			
P511AAA035	dog point	P511AAA036	scrape point
			

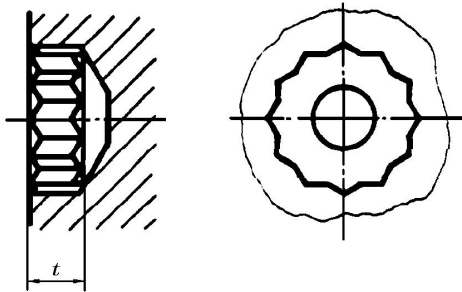
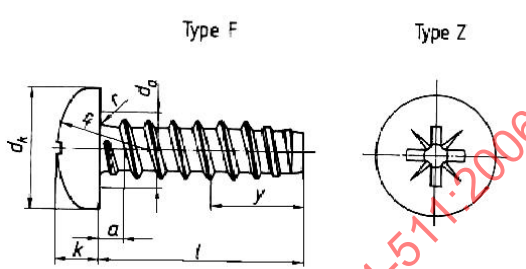
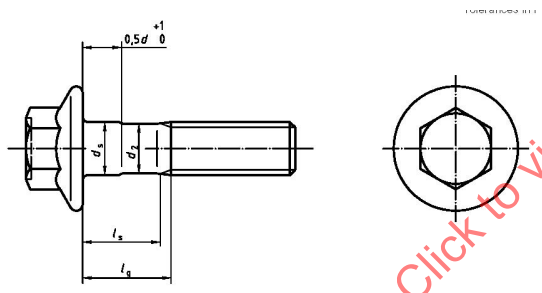
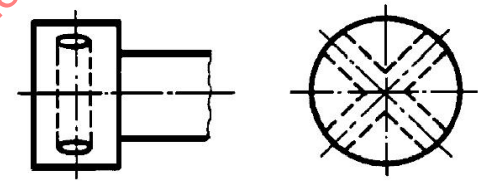
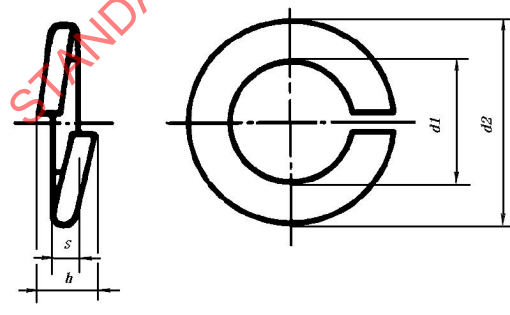
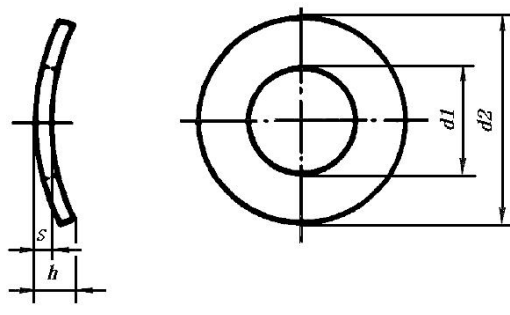
Code	Preferred Name	Code	Preferred Name
P511AAA038	metric external thread	P511AAA039	tapping screw thread
			
P511AAA041	wood screw thread	P511AAA043	hexagon socket
			
P511AAA044	slot	P511AAA045	cross recess (type H)
			

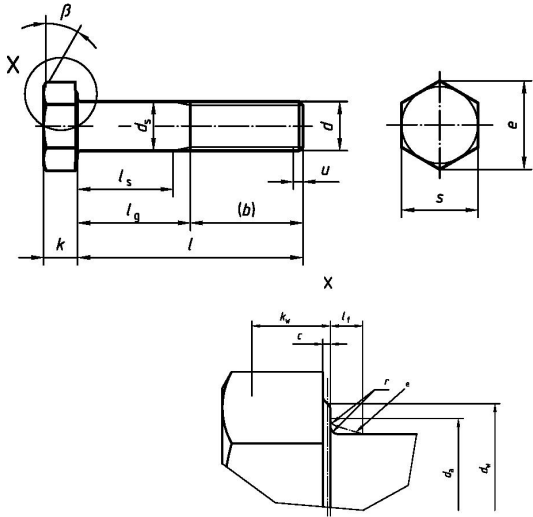
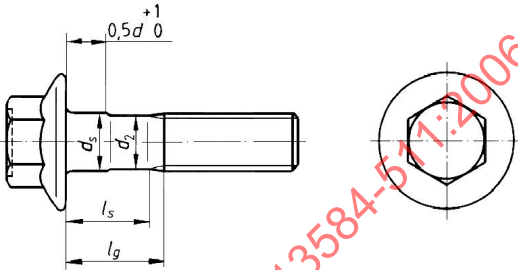
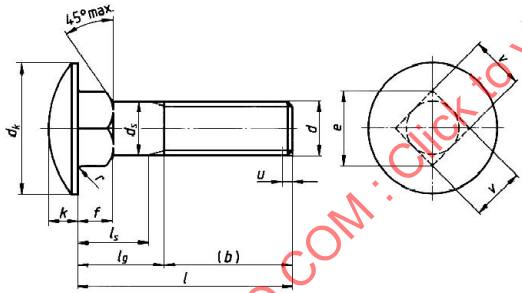
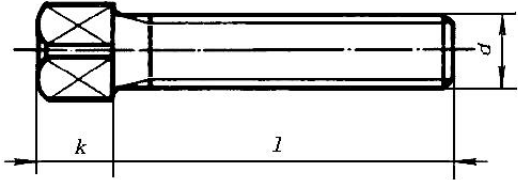
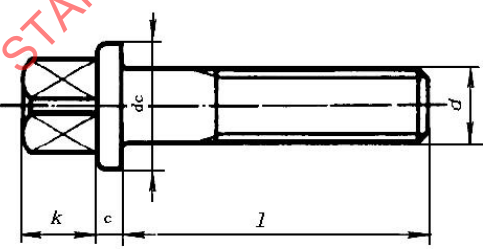
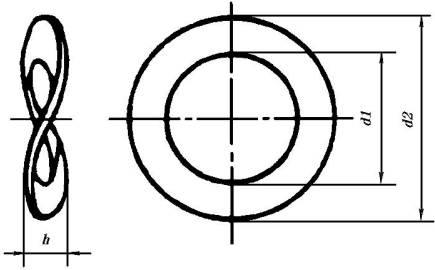
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P511AAA046	head with tommy	P511AAA047	hexagon head bolt with flange, full shank
			
P511AAA050	hexalobular socket head cap screw	P511AAA051	cup head square neck bolt
			
P511AAA071	waisted stud	P511AAA081	hexagon head bolt with flange with fine pitch thread, full shank
			

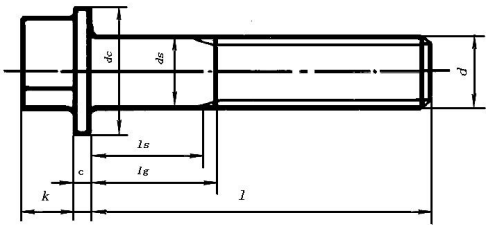
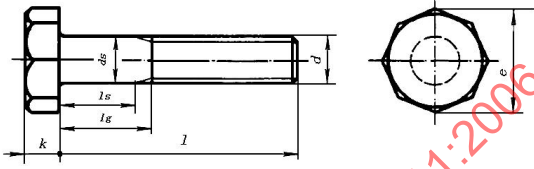
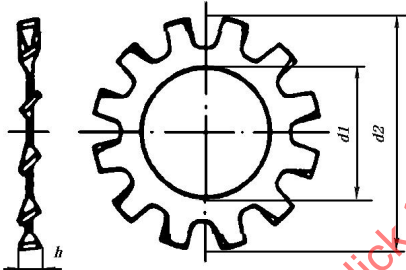
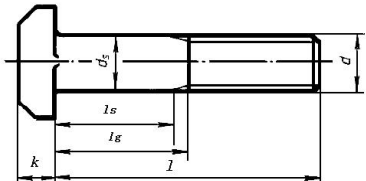
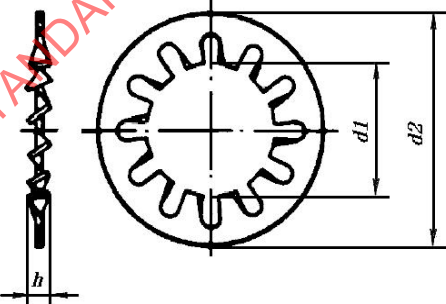
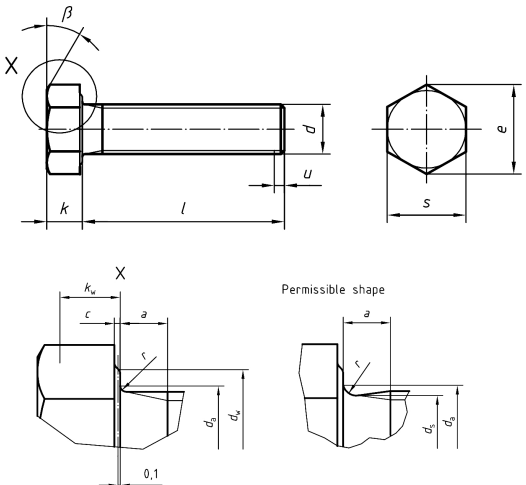
Code	Preferred Name	Code	Preferred Name
P511AAA082	open end blind rivet with break pull mandrel and countersunk head	P511AAA089	square washer with round hole
			
P511AAA091	stud with full shank	P511AAA093	open end blind rivet with break pull mandrel and protruding head
			
P511AAA099	stud bolt	P511AAA119	triangle head with collar
			
P511AAA120	octagonal head	P511AAA121	12 point flange head
			

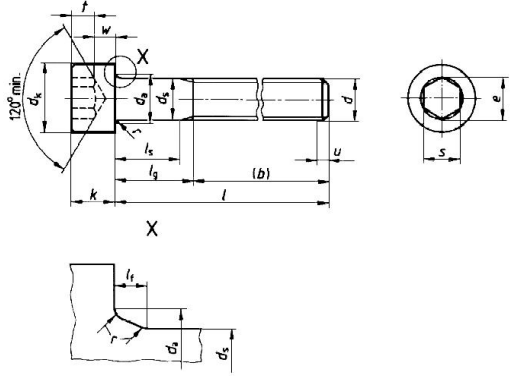
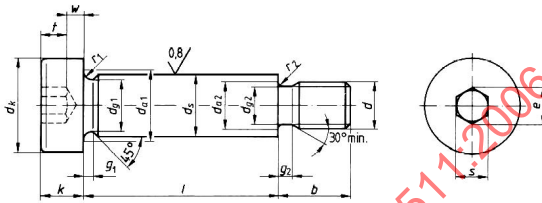
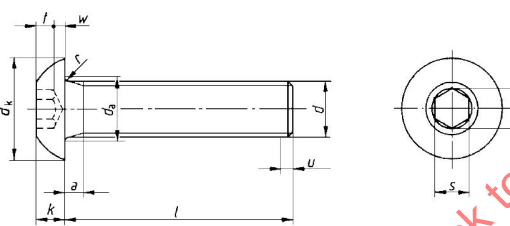
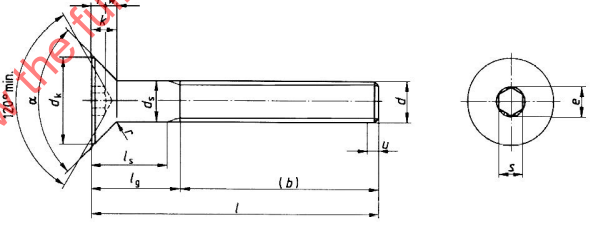
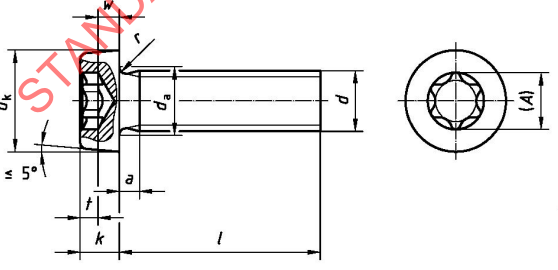
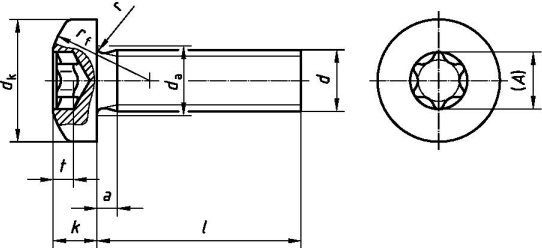
Code	Preferred Name	Code	Preferred Name
P511AAA122	cylindrical head	P511AAA125	full shank
			
P511AAA126	reduced shank	P511AAA127	waisted shank
			
P511AAA128	fit shank	P511AAA129	shoulder
			
P511AAA130	cone end (type C) of tapping screw	P511AAA131	flat point
			

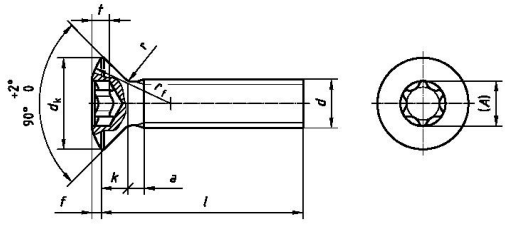
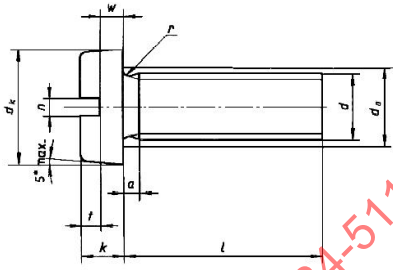
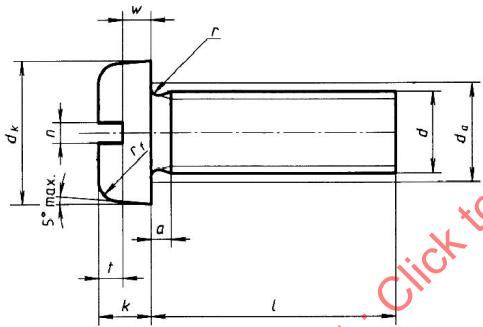
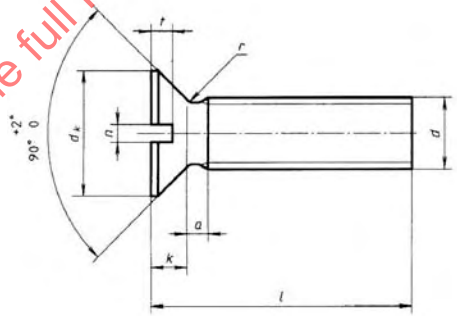
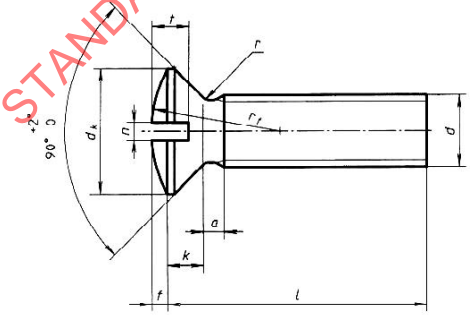
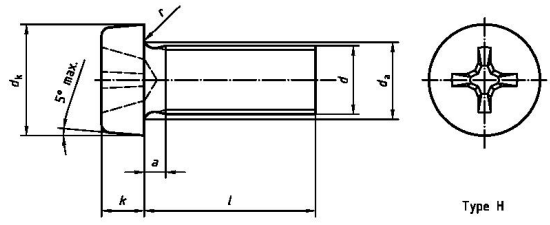
Code	Preferred Name	Code	Preferred Name
P511AAA132	flat end (type F) of tapping screw	P511AAA136	plain washer with square hole
			
P511AAA137	conical spring washer	P511AAA138	rounded end (type R) of tapping screw
			
P511AAA139	slotted pan head tapping screw with a flat end	P511AAA140	triangle socket
			
P511AAA141	square socket	P511AAA142	six-spline socket
			

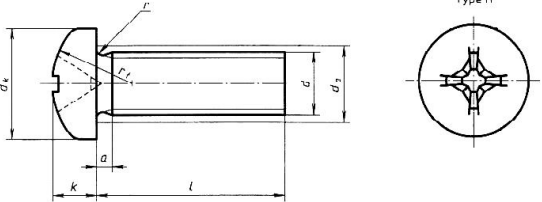
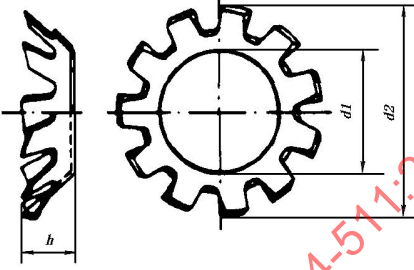
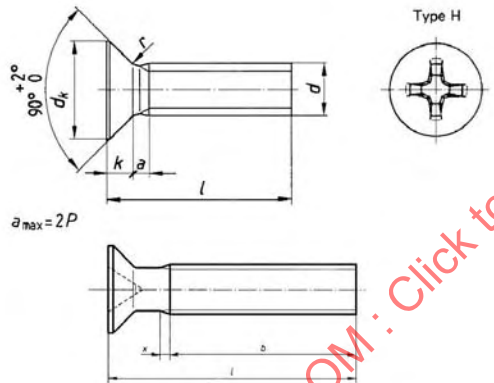
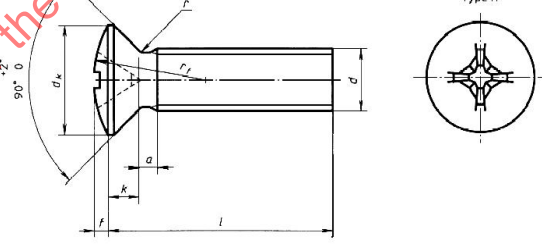
Code	Preferred Name	Code	Preferred Name
P511AAA143	12 point socket	P511AAA144	cross recessed (type Z) pan head tapping screw with a flat end
			
P511AAA146	hexagon head bolt with flange with fine pitch thread, reduced shank	P511AAA147	cross hole
			
P511AAA148	spring lock washer	P511AAA150	curved spring washer
			

Code	Preferred Name	Code	Preferred Name
P511AAA156	hexagon head bolt	P511AAA157	hexagon head bolt with flange, reduced shank
			
P511AAA158	cup head square neck bolt with large head	P511AAA159	square head bolt
			
P511AAA160	square head bolt with collar	P511AAA161	wave spring washer
			

Code	Preferred Name	Code	Preferred Name
P511AAA162	triangle head bolt	P511AAA163	octagon head bolt
			
P511AAA164	lock washer with external teeth	P511AAA166	T-head bolt
			
P511AAA168	lock washer with internal teeth	P511AAA169	hexagon head screw
			

Code	Preferred Name	Code	Preferred Name
P511AAA170	hexagon socket head cap screw	P511AAA171	hexagon socket head shoulder screw
			
P511AAA172	hexagon socket button head screw	P511AAA173	hexagon socket countersunk head screw
			
P511AAA174	hexalobular socket cheese head screw	P511AAA175	hexalobular socket pan head screw
			

Code	Preferred Name	Code	Preferred Name
P511AAA176	hexalobular socket raised countersunk head screw	P511AAA177	slotted cheese head screw
			
P511AAA178	slotted pan head screw	P511AAA179	slotted countersunk flat head screw
			
P511AAA180	slotted raised countersunk head screw	P511AAA181	cross recessed (type H) cheese head screw
			

Code	Preferred Name	Code	Preferred Name
P511AAA182	cross recessed (type H) pan head screw	P511AAA183	countersunk lock washer with external teeth
			
P511AAA184	countersunk flat head screw with cross recess (type H)	P511AAA185	raised countersunk head screw with cross recess (type H)
			
P511AAA187	slotted headless screw with shank	P511AAA188	hexagon socket set screw with flat point
