

INTERNATIONAL STANDARD

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Specification and approval of welding procedures for metallic materials —

Part 6:

Approval related to previous experience

*Descriptif et qualification d'un mode opératoire de soudage pour
les matériaux métalliques —*

Partie 6: Qualification par référence à l'expérience acquise



Reference number
ISO 9956-6:1995(E)

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.

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.

International Standard ISO 9956-6 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

This part of ISO 9956 is the equivalent of European Standard EN 288-6.

ISO 9956 consists of the following parts, under the general title *Specification and approval of welding procedures for metallic materials*:

- Part 1: *General rules for fusion welding*
- Part 2: *Welding procedure specification for arc welding*
- Part 3: *Welding procedure tests for the arc welding of steels*
- Part 4: *Welding procedure tests for the arc welding of aluminium and its alloys*
- Part 5: *Approval by using approved welding consumables for arc welding*
- Part 6: *Approval related to previous experience*
- Part 7: *Approval by a standard welding procedure for arc welding*
- Part 8: *Approval by a pre-production welding test*

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- *Part 10: Welding procedure specification for electron beam welding*
- *Part 11: Welding procedure specification for laser beam welding*
- *Part 12: Welding procedure test for arc welding of cast steels*

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Introduction

In ISO 9956-1, one of the methods of welding procedure approval is by relating to previous experience.

Many manufacturers have considerable experience in fabricating welded structures. Welded components and structures may have been supplied to end users/clients for a variety of applications and have performed satisfactorily over a period of time in service. If this experience is traceable and documented this standard provides a route to welding procedure approval based on this experience.

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Specification and approval of welding procedures for metallic materials —

Part 6:

Approval related to previous experience

1 Scope

This part of ISO 9956 specifies the conditions for approval of a welding procedure based on previous experience according to ISO 9956-1. In addition it gives the range of approval and the validity.

It applies to fusion welding of metallic materials.

The process numbers refer to ISO 4063.

Essentially this part of ISO 9956 covers the following processes:

- 111 : metal arc welding with covered electrode;
- 114 : flux-cored metal arc welding without gas shield;
- 121 : submerged arc welding with wire electrode;
- 122 : submerged arc welding with strip electrode;
- 131 : metal-arc inert gas welding; MIG welding;
- 135 : metal-arc active gas welding; MAG welding;
- 136 : flux-cored wire metal-arc welding with active gas shield;
- 137 : flux-cored wire metal-arc welding with inert gas shield;
- 141 : tungsten inert gas arc welding; TIG welding;
- 15 : plasma arc welding.

Other welding processes may be accepted by agreement when sufficient experience is available.

The use of this part of ISO 9956 may be restricted by an application standard or at the enquiry/order stage by the contracting parties.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9956. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9956 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4063:1990, *Welding, brazing, soldering and braze welding of metals — Nomenclature of processes and reference numbers for symbolic representation on drawings*.

ISO 9956-1:1995, *Specification and approval of welding procedures for metallic materials — Part 1: General rules for fusion welding*.

ISO 9956-2:1995, *Specification and approval of welding procedures for metallic materials — Part 2: Welding procedure specification for arc welding*.

ISO 9956-3:1995, *Specification and approval of welding procedures for metallic materials — Part 3:*

Welding procedure tests for the arc welding of steels.

ISO 9956-4:1995, *Specification and approval of welding procedures for metallic materials — Part 4: Welding procedure tests for the arc welding of aluminium and its alloys.*

3 Definitions

For the purposes of this part of ISO 9956, the definitions listed in ISO 9956-1 apply.

4 Preliminary welding procedure specifications (pWPS)

The approval of a welding procedure based on previous experience shall be based on a pWPS according to ISO 9956-2. This pWPS shall specify the range for all the relevant parameters.

5 Approval of the welding procedure

The approval of the welding procedure shall be carried out by an examiner or test body according to ISO 9956-1.

The essential items for the approval are:

- pWPS according to ISO 9956-2;
- documentation of the existing previous experience (see clause 6).

6 Demonstration of existing previous experience

Previous experience shall be demonstrated by documented examination and/or test data and either a summary of welding manufacturing or satisfactory service performance. This shall involve:

- a) satisfactory documentation of tests (e.g. non-destructive, destructive, leak or pressure tests) in all cases;

AND

- b) a summary of welding manufacturing of at least one year during an appropriate period;

OR

- c) suitability of welds in service for an appropriate period.

A period of five years is considered as an appropriate period unless otherwise specified in the application standard or by agreement between contracting parties.

7 Range of approval

The range of approval given to a welding procedure approved in accordance with this part of ISO 9956 shall be as given in the appropriate part of ISO 9956, e.g. ISO 9956-3 and ISO 9956-4.

An approval of WPS obtained by a manufacturer is valid for welding in workshops or sites under the same technical and quality control of that manufacturer.

8 Validity

The approved welding procedure based on previous experience is valid provided the welding production be carried out in the specified range (see clause 6).

9 Documentation

The pWPS accepted by the examiner or a test body signed and dated is then an approved welding procedure and is to be retained on record by the manufacturer.