

INTERNATIONAL STANDARD

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Specification and approval of welding procedures for metallic materials —

Part 1:

General rules for fusion welding

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

Partie 1: Règles générales pour le soudage par fusion



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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.

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 9956-1 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 288-1.

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*

Annex A of this part of ISO 9956 is for information only.

Introduction

Welding procedure specifications are needed in order to provide a well-defined basis for planning of the welding operations and for quality control during welding. Welding is considered a special process in the terminology of standards for quality systems. Standards for quality systems usually require that special processes be carried out in accordance with written procedure specifications.

ISO 9956-2 defines a format for the welding procedure specifications for arc welding of metallic materials, which is considered to fulfill the requirements in current standards for quality systems as regards procedure specifications.

Preparation of a welding procedure specification provides the necessary basis for, but does not in itself ensure that the welds fulfill the requirements. Some deviations, notably imperfections and distortions, can be evaluated by nondestructive methods on the finished product.

Metallurgical deviations constitute a special problem, however, because nondestructive evaluation of the mechanical properties is impossible at the present level of nondestructive technology. This has resulted in the establishment of a set of rules for approval of the welding procedure prior to the release of the specification to actual production. This part of ISO 9956 defines these rules.