INTERNATIONAL STANDARD

ISO 3834-4

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Quality requirements for welding — Fusion welding of metallic materials —

Part 4:
Elementary quality requirements

Exigences de qualité en soudage — Soudage par fusion des matériaux métalliques —

Partie 4: Exigences de qualité élémentaire

Reference number
ISO 3834-4:1994(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 3834-4 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 3834 cancels and replaces International Standards ISO 3834:1978 as well as ISO 6213:1989 which have been technically revised so as to gather all quality requirements for welding in one standard and to be in alignment with the principles for quality systems given in the ISO 9000 series.

ISO 3834, which is equivalent to EN 729, consists of the following parts, under the general title *Quality requirements for welding — Fusion welding of metallic materials*:

— *Part 1: Guidelines for selection and use*

— *Part 2: Comprehensive quality requirements*

— *Part 3: Standards quality requirements*

— *Part 4: Elementary quality requirements*

Annex A of this part of ISO 3834 is for information only.

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Quality requirements for welding — Fusion welding of metallic materials —

Part 4:
Elementary quality requirements

1 Scope

This part of ISO 3834 has been prepared such that

— it is independent of the type of welded construction to be manufactured;

— it defines quality requirements for welding both in workshops and on site;

— it provides guidance for describing a manufacturer's capability to produce welded constructions to meet specified requirements;

— it may also be used as a basis for assessing the manufacturer with respect to his welding capability.

This part of ISO 3834 is appropriate when demonstration of a manufacturer's capability to produce welded constructions and to fulfill specified quality requirements, are specified in one or more of the following:

— a contract between involved parties;

— an application standard;

— a regulatory requirement.

The requirements contained within this part of ISO 3834 may be adopted in full or may be selectively deleted by the manufacturer if not applicable to the construction concerned. They provide a flexible framework for the control of welding in the following cases:

Case 1

To provide specific requirements for fusion welding in contracts which require the manufacturer to have a quality system other than ISO 9001 or ISO 9002 and where the documented welding control has a minor importance to the overall integrity of the final construction;

Case 2

To provide specific requirements for fusion welding as guidance to a manufacturer developing a quality system;

Case 3

To provide specific requirements for references in application standards which uses fusion welding as part of its requirements or in a contract between relevant parties.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 3834. 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 3834 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 3834-1:1994, *Quality requirements for welding — Fusion welding of metallic materials — Part 1: Guidelines for selection and use.*

ISO 9606-1:1994, *Approval testing of welders — Fusion welding — Part 1: Steels.*

ISO 9606-2:1994, *Approval testing of welders — Fusion welding — Part 2: Aluminium and aluminium alloys.*

ISO 9712:1992, *Non-destructive testing — Qualification and certification of personnel.*

3 Definitions

For the purposes of this part of ISO 3834, the definitions given in ISO 3834-1 apply.

4 Contract and design review

The manufacturer shall review the contractual requirements and the design data provided by the purchaser or in-house data for products design by the manufacturer. This is to ensure that all information necessary to carry out the fabrication operations is available prior to the commencement of the work. The manufacturer shall affirm his capability to meet all welding contract requirements and ensure adequate planning of all quality related activities.

5 Subcontracting

Any subcontractor shall work under the order and responsibility of the manufacturer and shall fully comply with the relevant requirements of this part of ISO 3834.

6 Welders

All welders and welding operators shall be approved by an appropriate test according to the relevant part of ISO 9606. All records of approval shall be maintained up to date.

7 Welding equipment

Welding equipment shall be maintained so that it is in good working order.

8 Welding activities

Welding shall be performed in accordance with an appropriate welding technique.

9 Welding consumables

The manufacturer shall ensure that appropriate welding consumables are used and stored in accordance with supplier's recommendations.

10 Welding-related inspection and testing

10.1 General

The manufacturer shall provide a sufficient supervision of the welding production in order to assure that the welding is carried out in a manner compatible with good workmanship.

The manufacturer shall carry out all inspection and testing as specified in the contract.

The manufacturer should provide reasonable assistance to third parties (if any) carrying out inspection and testing, if required.

10.2 Inspection and testing personnel

The manufacturer shall have at his disposal sufficient and competent personnel for planning and performing inspection and testing, when required to perform such activities.

The non-destructive testing personnel shall be approved in accordance with ISO 9712.

11 Nonconformance and corrective action

Measures shall be implemented to control items which do not conform to specified requirements in order to prevent their inadvertent use. When repair and/or rectification is undertaken by the manufacturer, appropriate procedures shall be available at all workstations where repair or rectification is performed. When repair or rectification is carried out, the items shall be re-inspected, tested and examined in accordance with the original requirements.

12 Quality records

Quality records required by contract shall be retained for a minimum period of 5 years in the absence of any other specified requirements.

Annex A
(informative)

Bibliography

[1] ISO 9001:1994, *Quality systems — Model for quality assurance in design, development, production, installation and servicing.*

[2] ISO 9002:1994, *Quality systems — Model for quality assurance in production, installation and servicing.*

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