INTERNATIONAL STANDARD

**ISO 3834-3**

Third edition
2021-04

# Quality requirements for fusion welding of metallic materials —

## Part 3: Standard quality requirements

*Exigences de qualité en soudage par fusion des matériaux métalliques —*
*Partie 3: Exigences de qualité normale*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.



This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Quality management in the field of welding,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).



This third edition cancels and replaces the second edition (ISO 3834-3:2005), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

— editorial revisions;

— update of references to the latest edition of ISO 3834-5;

— rewrite of Clause 16 on calibration and validation of measuring, inspection and test equipment.

A list of all parts in the ISO 3834 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Official interpretations, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

 

# Quality requirements for fusion welding of metallic materials —

# Part 3: Standard quality requirements

## 1 Scope

This document defines standard quality requirements for fusion welding of metallic materials both in workshops and at field installation sites.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3834-1, *Quality requirements for fusion welding of metallic materials — Part 1: Criteria for the selection of the appropriate level of quality requirements*

ISO 3834-5:—,[1] *Quality requirements for fusion welding of metallic materials — Part 5: Documents with which it is necessary to conform to claim conformity to the quality requirements of ISO 3834-2, ISO 3834-3 or ISO 3834-4*



## 3 Terms and definitions



For the purposes of this document, the terms and definitions given in ISO 3834-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

## 4 Use of this document

For general information on the use of this document, ISO 3834-1 shall be used.

In order to fulfil the quality requirements given in this document, the conformity to relevant documents given in ISO 3834-5 shall be verified.

In certain situations, e.g. where manufacturing is more suited to ISO 3834-4, or where particular operations, such as heat treatment, are not undertaken, the requirements detailed in this document may be selectively amended or deleted.

Otherwise, the requirements contained within this document shall be adopted in full.

1) Under preparation. (Stage at the time of publication: ISO/DIS 3834-5:2021).

# 5 Review of requirements and technical review

## 5.1 General

The manufacturer shall review the contractual requirements and any other requirements, together with any technical data provided by the purchaser or in-house data when the construction is designed by the manufacturer. The manufacturer shall establish that all information necessary to carry out the manufacturing operations is complete and available prior to the commencement of the work. The manufacturer shall affirm its capability to meet all requirements and shall ensure adequate planning of all quality-related activities.

The review of requirements is carried out by the manufacturer to verify that:

— the work content is within its capability to perform;

— sufficient resources are available to achieve delivery schedules; and

— documentation is clear and unambiguous.

The manufacturer shall ensure that any variations between the contract and any previous quotation are identified and the purchaser notified of any programme, cost or engineering changes that can result.

Items in 5.2 are typically considered at or before the time of the review of requirements. Items in 5.3 usually form part of the technical review and are considered during the initial planning stage.

When a contract does not exist, e.g. items made for stock, the manufacturer is required to take into consideration the requirements of 5.2 while carrying out the technical review (see 5.3).



## 5.2 Review of requirements

The following aspects shall be considered:

a) the product standard to be used, together with any supplementary requirements;

b) statutory and regulatory requirements;

c) any additional requirement determined by the manufacturer;

d) the capability of the manufacturer to meet the prescribed requirements.



## 5.3 Technical review

The following technical requirements shall be considered:

a) parent material(s) specification and welded joint properties;

b) quality and acceptance requirements for welds;

c) location, accessibility and sequence of welds, including accessibility for inspection and for non-destructive testing;

d) the specification of welding procedures, non-destructive testing procedures and heat treatment procedures;

e) the approach to be used for the qualification of welding procedures;

f) the qualification of personnel;

g) selection, identification and/or traceability (e.g. for materials, welds);

h) quality-control arrangements, including any involvement of an independent inspection body;