SS ISO 3834-6:2024
ISO 3834-6:2024, IDT
(ICS 25.160.01)

SINGAPORE STANDARD

Quality requirements for fusion welding of metallic materials

– Part 6 : Guidelines on implementing the SS ISO 3834 series

Singapore Standards Council

SS ISO 3834-6:2024
ISO 3834-6:2024, IDT
(ICS 25.160.01)

SINGAPORE STANDARD

Quality requirements for fusion welding of metallic materials

– Part 6 : Guidelines on implementing the SS ISO 3834 series

Published by Enterprise Singapore

ISBN 978-981-5277-03-6

National Foreword

This Singapore Standard was prepared by the Working Group on Welding and Allied Processes (also known as the National Mirror Working Group on ISO/TC 44 – Welding and Allied Processes) set up by the Technical Committee on Workplace Safety and Health under the purview of the Safety and Quality Standards Committee.

This standard is an identical adoption of ISO 3834:2024, “Quality requirements for fusion welding of metallic materials – Part 6: Guidelines on implementing the ISO 3834 series” published by the International Organization for Standardization.

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

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as “mature standards”. Mature standards will not be subject to further review, unless there are requests to review such standards.*

2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*

3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

International Standard

ISO 3834-6

First edition
2024-02

Quality requirements for fusion welding of metallic materials —

Part 6: Guidelines on implementing the ISO 3834 series

Exigences de qualité en soudage par fusion des matériaux métalliques —

Partie 6: Lignes directrices pour la mise en application de la série ISO 3834

Reference number
ISO 3834-6:2024(en)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Abbreviated terms **1**

5 Using the ISO 3834 series **1**
5.1 General 1
5.2 Product standards 2
5.3 Purchasers and users 2
5.4 Quality management systems in accordance with ISO 9001 2
5.5 Quality management systems other than ISO 9001 2
5.6 Manufacturers 2

6 Incorporating the ISO 3834 series in product standards **2**

7 Using other documents with the ISO 3834 series **2**

8 Documentation and quality systems **3**
8.1 Documentation 3
8.2 Quality management system 3

9 Selecting the level of quality requirements **4**

10 Implementation in fabrication **6**
10.1 General guidelines for implementation 6
10.1.1 Basic principles 6
10.1.2 Implementation 6
10.1.3 Control of welding 8
10.1.4 Production procedures 8
10.2 Organization 9

11 Interpretation of particular clauses in the ISO 3834 series **10**
11.1 Requirements review and technical review 10
11.2 Subcontracting 10
11.3 Welding coordination 11
11.3.1 General 11
11.3.2 Welding coordinator 11
11.3.3 Welding inspection personnel 12
11.3.4 NDT personnel 12
11.3.5 Correlation between ISO 14731 and ISO 3834 series quality levels 12
11.4 Equipment 13
11.5 Welding activities 13
11.6 Storage of parent metal 13
11.7 Calibration and validation 13
11.8 Identification and traceability 14

12 Assessment and certification **14**

Annex A (informative) **Examples of documents for the control of welding-related activities** **15**

Bibliography **18**

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 document cancels and replaces ISO/TR 3834-6:2007, which has been technically revised.

The main changes are as follows:

— document changed from a Technical Report to an International Standard;

— references to IIW and IAB removed;

— Clause 11 updated to address visual testing of welds;

— text aligned with ISO 14731.

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 of ISO/TC 44 documents, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

Introduction

Welding is a special process in that it is not always possible to verify the final result by testing. The quality of the weld is manufactured into the product, not inspected. This means that welding normally requires continuous control or that specific procedures be followed, or both. The ISO 3834 series deals with quality requirements in welding and has been prepared in order to identify those controls and procedures.

The ISO 3834 series is not a quality system standard intended to take the place of ISO 9001, but a useful, additional tool for use when ISO 9001 is applied by manufacturers, in which case the meeting of its requirements needs to be recorded in certificates or documentation. However, the ISO 3834 series can be used independently of ISO 9001.

The ISO 3834 series is intended for the fusion welding of metallic materials, and its application is independent of the products manufactured. However, its principles and many of its detailed requirements are also relevant for other welding and welding-related processes.

One of the aims of the ISO 3834 series is to specify requirements in the field of welding so that contracting parties or regulators do not have to do this themselves. A reference to a particular part of the ISO 3834 series should be sufficient to demonstrate the capabilities of the manufacturer to control welding activities for the type of work being done. This concept also applies to committees responsible for drafting product standards.

The ISO 3834 series does not in itself require external assessment or certification. However, assessments by customers and certification by independent bodies are growing trends in commercial relations and the series can serve as a basis for these purposes, as well as for the demonstration of performance by those manufacturers implementing it.

Other International Standards covering resistance welding and thermal spraying include the ISO 14554 series and ISO 14922, respectively.

International Standard **ISO 3834-6:2024(en)**

Quality requirements for fusion welding of metallic materials —

Part 6: Guidelines on implementing the ISO 3834 series

1 Scope

This document gives guidelines for the implementation of requirements given in the other parts of the ISO 3834 series. It is intended to help users select the appropriate part of the ISO 3834 series. It is expected that users will already be familiar with the ISO 3834 series as a whole.

This document does not provide additional requirements to those in ISO 3834-1 to ISO 3834-5.

2 Normative references

There are no normative references in this document.