



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 11666:2018

# Non-destructive testing of welds - Ultrasonic testing - Acceptance levels (ISO 11666:2018)

## I.S. EN ISO 11666:2018

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

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## National Foreword

I.S. EN ISO 11666:2018 is the adopted Irish version of the European Document EN ISO 11666:2018, Non-destructive testing of welds - Ultrasonic testing - Acceptance levels (ISO 11666:2018)

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EUROPEAN STANDARD

EN ISO 11666

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2018

ICS 25.160.40

Supersedes EN ISO 11666:2010

English Version

## Non-destructive testing of welds - Ultrasonic testing - Acceptance levels (ISO 11666:2018)

Essais non destructifs des assemblages soudés -  
Contrôle par ultrasons - Niveaux d'acceptation (ISO  
11666:2018)

Zerstörungsfreie Prüfung von Schweißverbindungen -  
Ultraschallprüfung - Zulässigkeitsgrenzen (ISO  
11666:2018)

This European Standard was approved by CEN on 21 January 2018.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN ISO 11666:2018 (E)**

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## **European foreword**

This document (EN ISO 11666:2018) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding and allied processes", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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

This document supersedes EN ISO 11666:2010.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 11666:2018 has been approved by CEN as EN ISO 11666:2018 without any modification.

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**INTERNATIONAL  
STANDARD**

**ISO  
11666**

Second edition  
2018-01

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**Non-destructive testing of welds —  
Ultrasonic testing — Acceptance levels**

*Essais non destructifs des assemblages soudés — Contrôle par  
ultrasons — Niveaux d'acceptation*



Reference number  
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**ISO 11666:2018(E)**



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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

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## ISO 11666:2018(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.

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](http://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](http://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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

This second edition cancels and replaces the first edition (ISO 11666:2010), which has been technically revised.

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

- this document has been editorially revised;
- the normative reference to ISO 5817 has been dated;
- [Clause 5](#) and [6.5](#) have been described in more detail.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 5 via your national standards body. A complete listing of these bodies can be found at [www.iso.org](http://www.iso.org).

# Non-destructive testing of welds — Ultrasonic testing — Acceptance levels

## 1 Scope

This document specifies two ultrasonic acceptance levels known as acceptance level 2 (AL 2) and acceptance level 3 (AL 3) for full penetration welded joints in ferritic steels, which correspond to ISO 5817:2014, quality levels B and C. An acceptance level corresponding to ISO 5817:2014, quality level D is not included in this document, as ultrasonic testing is generally not requested for this weld quality.

These acceptance levels are applicable to testing carried out in accordance with ISO 17640.

This document applies to the testing of full penetration ferritic steel welds, with thicknesses from 8 mm to 100 mm. It can also be used for other types of welds, materials and thicknesses, provided the tests have been performed with necessary consideration of the geometry and acoustic properties of the component, and an adequate sensitivity can be employed to enable the acceptance levels of this document to be applied. The nominal frequency of probes used in this document is between 2 MHz and 5 MHz, unless attenuation or requirements for higher resolution call for other frequencies. It is important to consider the use of these acceptance levels in conjunction with frequencies outside this range carefully.

## 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 5577, *Non-destructive testing — Ultrasonic testing — Vocabulary*

ISO 5817:2014, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections*

ISO 17635, *Non-destructive testing of welds — General rules for metallic materials*

ISO 17640, *Non-destructive testing of welds — Ultrasonic testing — Techniques, testing levels, and assessment*

ISO 23279, *Non-destructive testing of welds — Ultrasonic testing — Characterization of discontinuities in welds*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577 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/>

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