



NSAI
Standards

Irish Standard
I.S. EN ISO 23279:2017

Non-destructive testing of welds - Ultrasonic testing - Characterization of discontinuities in welds (ISO 23279:2017)

I.S. EN ISO 23279:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 23279:2017

Published:

2017-09-13

This document was published under the authority of the NSAI and comes into effect on:

2017-10-01

ICS number:

25.160.40

NOTE: If blank see CEN/CENELEC cover page

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

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 23279:2017 is the adopted Irish version of the European Document EN ISO 23279:2017, Non-destructive testing of welds - Ultrasonic testing - Characterization of discontinuities in welds (ISO 23279:2017)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 23279

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 25.160.40

Supersedes EN ISO 23279:2010

English Version

Non-destructive testing of welds - Ultrasonic testing - Characterization of discontinuities in welds (ISO 23279:2017)

Essais non destructifs des assemblages soudés -
Contrôle par ultrasons - Caractérisation des
discontinuités dans les assemblages soudés (ISO
23279:2017)

Zerstörungsfreie Prüfung von Schweißverbindungen -
Ultraschallprüfung - Charakterisierung von
Inhomogenitäten in Schweißnähten (ISO 23279:2017)

This European Standard was approved by CEN on 4 June 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 23279:2017 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 23279:2017) 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 March 2018, and conflicting national standards shall be withdrawn at the latest by March 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 23279:2010.

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 23279:2017 has been approved by CEN as EN ISO 23279:2017 without any modification.

This page is intentionally left blank

INTERNATIONAL
STANDARD

ISO
23279

Third edition
2017-08

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

*Essais non destructifs des assemblages soudés — Contrôle par
ultrasons — Caractérisation des discontinuités dans les assemblages
soudés*



Reference number
ISO 23279:2017(E)

© ISO 2017

ISO 23279:2017(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Criteria	2
5.1 General.....	2
5.2 Echo amplitude criteria (stages 1 and 2).....	3
5.2.1 Low amplitudes (stage 1).....	3
5.2.2 High amplitudes (stage 2).....	3
5.3 Directional reflectivity criteria (stage 3).....	3
5.3.1 Applicability based on length.....	3
5.3.2 Application conditions.....	3
5.3.3 Criteria.....	3
5.4 Echo static pattern criteria (stage 4).....	4
5.5 Transverse echo dynamic pattern criteria (stage 5).....	4
5.6 Complementary testing.....	4
Annex A (normative) Classification of indications from internal discontinuities in welds — Flowchart procedure	5
Annex B (informative) Directional reflectivity	8
Annex C (informative) Basic echo dynamic patterns of reflectors	10

ISO 23279:2017(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).

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 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.

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

This third edition cancels and replaces the second edition (ISO 23279:2010), which has been technically revised.

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.

Non-destructive testing of welds — Ultrasonic testing — Characterization of discontinuities in welds

1 Scope

This document specifies how to characterize indications from discontinuities by classifying them as originating from planar or non-planar embedded discontinuities.

This procedure is also suitable for indications from discontinuities that break the surface after removal of the weld reinforcement.

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 11666, *Non-destructive testing of welds — Ultrasonic testing — Acceptance levels*

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

3 Terms and definitions

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Principle

Classification of discontinuities as planar or non-planar is based on several parameters:

- a) welding techniques;
- b) geometrical position of the discontinuity;
- c) maximum echo amplitude;
- d) directional reflectivity;
- e) echo static pattern (i.e. A-scan);
- f) echo dynamic pattern (envelope).

The process of classification involves examining each of the parameters against all the others in order to arrive at an accurate conclusion.

For guidance, [Figure A.1](#) gives the classification of indications from internal weld discontinuities suitable for general applications. [Figure A.1](#) should be applied in conjunction with the two parameters a) and b) listed above and not taken in isolation.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-