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BS EN ISO 23278:2015



BSI Standards Publication

Non-destructive testing of welds — Magnetic particle testing — Acceptance levels

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This British Standard is the UK implementation of EN ISO 23278:2015. It supersedes BS EN ISO 23278:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/46, Non-destructive testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

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English Version

Non-destructive testing of welds - Magnetic particle testing - Acceptance levels (ISO 23278:2015)

Contrôle non destructif des assemblages soudés - Contrôle
par magnétoscopie - Niveaux d'acceptation (ISO
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Zerstörungsfreie Prüfung von Schweißverbindungen -
Magnetpulverprüfung von Schweißverbindungen -
Zulässigkeitsgrenzen (ISO 23278:2015)

This European Standard was approved by CEN on 8 November 2014.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN ISO 23278:2015) 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 September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.

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

This document supersedes EN ISO 23278:2009.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 23278:2015 has been approved by CEN as EN ISO 23278:2015 without any modification.

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Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Testing parameters	1
5 Acceptance levels	2
5.1 General	2
5.2 Removal of imperfections	2
Annex A (informative) Recommended testing parameters	3
Bibliography	4

This is a preview of "BS EN ISO 23278:2015". Click here to purchase the full version from the ANSI store.

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).

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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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is 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 23278:2006), which has been technically revised.

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Non-destructive testing of welds — Magnetic particle testing — Acceptance levels

1 Scope

This International Standard specifies acceptance levels for indications from imperfections in ferromagnetic steel welds detected by magnetic particle testing.

The acceptance levels are primarily intended for use during manufacture examination.

NOTE They can also be used for in-service inspection.

The acceptance levels in this International Standard are based on detection capabilities that can be expected when using techniques specified in ISO 17638 and parameters recommended in [Annex A](#). The acceptance levels can be related to welding standards, application standards, specifications or codes. Such a relationship is shown in ISO 17635 for ISO 5817.

Acceptance levels for grouped indications are not covered by this International Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/TS 18173, *Non-destructive testing — General terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 18173 and the following apply.

3.1

linear indication

l

indication having a length greater than three times its width

3.2

non-linear indication

d

indication having a length less than or equal to three times its width

4 Testing parameters

Many parameters, either individually or in combination, will affect the ability of a technique to detect imperfections of a given size and orientation with respect to the condition of the test surface.

Detection of small imperfections is highly dependent on the surface condition of the weld and the detection media used. Examples of the application of these parameters to give a high probability of detection are given in [Annex A](#).