



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 17638:2016

# Non-destructive testing of welds - Magnetic particle testing (ISO 17638:2016)

## I.S. EN ISO 17638:2016

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

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

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## National Foreword

I.S. EN ISO 17638:2016 is the adopted Irish version of the European Document EN ISO 17638:2016, Non-destructive testing of welds - Magnetic particle testing (ISO 17638:2016)

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

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EUROPEAN STANDARD

EN ISO 17638

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 25.160.40

Supersedes EN ISO 17638:2009

English Version

## Non-destructive testing of welds - Magnetic particle testing (ISO 17638:2016)

Contrôle non destructif des assemblages soudés -  
Magnétoscopie (ISO 17638:2016)

Zerstörungsfreie Prüfung von Schweißverbindungen -  
Magnetpulverprüfung (ISO 17638:2016)

This European Standard was approved by CEN on 2 October 2016.

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**EN ISO 17638:2016 (E)**

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## **European foreword**

This document (EN ISO 17638:2016) 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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 17638:2009.

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 17638:2016 has been approved by CEN as EN ISO 17638:2016 without any modification.

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**Non-destructive testing of welds —  
Magnetic particle testing**

*Contrôle non destructif des assemblages soudés — Magnétoscopie*



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## ISO 17638:2016(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 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).

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 17638:2003), 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](http://www.iso.org).

# Non-destructive testing of welds — Magnetic particle testing

## 1 Scope

This document specifies techniques for detection of surface imperfections in welds in ferromagnetic materials, including the heat affected zones, by means of magnetic particle testing. The techniques are suitable for most welding processes and joint configurations. Variations in the basic techniques that will provide a higher or lower test sensitivity are described in [Annex A](#).

This document does not specify acceptance levels of the indications. Further information on acceptance levels for indications may be found in ISO 23278 or in product or application standards.

## 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 3059, *Non-destructive testing — Penetrant testing and magnetic particle testing — Viewing conditions*

ISO 9934-1:2015, *Non-destructive testing — Magnetic particle testing — Part 1: General principles*

ISO 9934-2, *Non-destructive testing — Magnetic particle testing — Part 2: Detection media*

ISO 9934-3, *Non-destructive testing — Magnetic particle testing — Part 3: Equipment*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12707 and ISO 17635 apply.

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 Safety precautions

Special consideration shall be given to toxic, inflammable and/or volatile materials, electrical safety and unfiltered UV radiation.

Magnetic particle testing often creates high magnetic fields close to the object under test and the magnetising equipment. Items sensitive to these fields should be excluded from such areas.

## 5 General

### 5.1 Information required prior to testing

Prior to testing, the following items shall be specified (where applicable):

- a) specific test procedure;
- b) certification requirements for NDT personnel;

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