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

*Contrôle non destructif des assemblages soudés — Contrôle par
magnétoscopie — Niveaux d'acceptation*

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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 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.

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](#).