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

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



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Foreword

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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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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 23277:2006), which has been technically revised.

Non-destructive testing of welds — Penetrant testing — Acceptance levels

1 Scope

This International Standard specifies acceptance levels for indications from surface breaking imperfections in metallic welds detected by penetrant testing.

The acceptance levels are primarily intended for use during manufacture examination, but where appropriate, they can 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 3452 series 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 and ISO 10042.

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 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

ISO 3452-2, *Non-destructive testing — Penetrant testing — Part 2: Testing of penetrant materials*

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

ISO 10042, *Welding — Arc-welded joints in aluminium and its alloys — Quality levels for imperfections*

ISO 12706, *Non-destructive testing — Penetrant testing — Vocabulary*

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

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, ISO 12706, and the following apply.

3.1

linear indication

indication having a length greater than three times its width

3.2

non-linear indication

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