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

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



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## Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 23277 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding* (as EN 1289:1998 and its Amd.1:2002 and Amd.2:2003), and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*, in parallel with its approval by the ISO member bodies.

This document constitutes a consolidated version.

Requests for official interpretations of any aspect of this International Standard 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 <http://www.iso.org>.

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# Non-destructive testing of welds — Penetrant testing of welds — 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 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.

## 2 Normative references

The following referenced documents are indispensable for the application 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 3452, *Non-destructive testing — Penetrant inspection — 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 — Terminology — Terms used in penetrant testing*

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

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

EN 1330-2, *Non-destructive testing — Terminology — Part 2: Terms common to the non-destructive testing methods*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 18173, EN 1330-2 and ISO 12706 and the following apply.

### 3.1

#### **linear indication**

indication having a length greater than three times its width