



SLOVENSKI STANDARD SIST EN ISO 3452-2:2014

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Nadomešča:
SIST EN ISO 3452-2:2007

Neporušitvene preiskave - Pregled s penetranti - 2. del: Preiskava penetrantskih snovi (ISO 3452-2:2013)

Non-destructive testing - Penetrant testing - Part 2: Testing of penetrant materials (ISO 3452-2:2013)

Zerstörungsfreie Prüfung - Eindringprüfung - Teil 2: Prüfung von Eindringprüfmitteln (ISO 3452-2:2013)

Essais non destructifs - Examen par ressuage - Partie 2: Essai des produits de ressuage (ISO 3452-2:2013)

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19.100 Neporušitveno preskušanje Non-destructive testing

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Non-destructive testing - Penetrant testing - Part 2: Testing of penetrant materials (ISO 3452-2:2013)

Essais non destructifs - Examen par ressuage - Partie 2:
Essai des produits de ressuage (ISO 3452-2:2013)

Zerstörungsfreie Prüfung - Eindringprüfung - Teil 2: Prüfung
von Eindringprüfmitteln (ISO 3452-2:2013)

This European Standard was approved by CEN on 19 October 2013.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

The text of ISO 3452-2:2013 has been prepared by Technical Committee ISO/TC 135 “Non-destructive testing” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 3452-2:2013 by Technical Committee CEN/TC 138 “Non-destructive testing” the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.

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 3452-2:2006.

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.

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The text of ISO 3452-2:2013 has been approved by CEN as EN ISO 3452-2:2013 without any modification.

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INTERNATIONAL
STANDARD

ISO
3452-2

Third edition
2013-11-15

**Non-destructive testing — Penetrant
testing —**

**Part 2:
Testing of penetrant materials**

Essais non destructifs — Examen par ressuage —

Partie 2: Essai des produits de ressuage

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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. 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. 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 135, *Non-destructive testing*, Subcommittee SC 2, and by Technical Committee CEN/TC 138, *Non-destructive testing* in collaboration.

This third edition cancels and replaces the second edition (ISO 3452-2:2006), which has been technically revised.

ISO 3452 consists of the following parts, under the general title *Non-destructive testing — Penetrant testing*:

- *Part 1: General principles*
- *Part 2: Testing of penetrant materials*
- *Part 3: Reference test blocks*
- *Part 4: Equipment*
- *Part 5: Penetrant testing at temperatures higher than 50 °C*
- *Part 6: Penetrant testing at temperatures lower than 10 °C*

The main changes with respects to the previous edition are listed below:

- a) The normative references were updated;
- b) [Tables 1, 4, 8, 9](#) were corrected;
- c) A new [Clause 5.1](#) was inserted;
- d) [Clause 6.6](#) was revised;
- e) The former [Annex B](#) was deleted;
- f) Editorial changes were made.

Non-destructive testing — Penetrant testing —

Part 2: Testing of penetrant materials

SAFETY PRECAUTIONS — The materials required by this part of ISO 3452 include chemicals which may be harmful, flammable and/or volatile. All necessary precautions shall be observed. All relevant International, national and local regulations pertaining to health and safety, environmental requirements, etc. shall be observed.

1 Scope

This part of ISO 3452 specifies the technical requirements and test procedures for penetrant materials for their type testing and batch testing. This part of ISO 3452 covers the temperature range 10 °C to 50 °C. Additional tests in part 5 or part 6 of ISO 3452 may be required outside this range.

On-site control tests and methods are detailed in ISO 3452-1.

2 Normative references

The following referenced 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 3059, *Non-destructive testing — Penetrant testing and magnetic particle testing - Viewing conditions*

ISO 3452-1:2013, *Non-destructive testing — Penetrant testing — Part 1: General principles*

ISO 3452-3, *Non-destructive testing — Penetrant testing — Part 3: Reference test blocks*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 10474, *Steel and steel products — Inspection documents*

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

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12706, ISO 3452-1 and the following apply.

3.1

batch

quantity of material manufactured in one production having uniform properties throughout and with a unique identifying number or mark

3.2

candidate

sample of the testing product submitted for evaluation in accordance with this part of ISO 3452

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4 Classification

4.1 Testing products

Penetrant testing products shall be classified by type, method and form in accordance with [Table 1](#).

Table 1 — Testing products

Penetrant		Excess penetrant remover		Developer	
Type	Denomination	Method	Denomination	Form	Denomination
I	Fluorescent penetrant	A	Water	a	Dry
II	Colour contrast penetrant	B	Lipophilic emulsifier	b	Water soluble
				c	Water suspendable
III	Dual-purpose (fluorescent colour contrast penetrant)	C	Solvent (liquid): Class 1 Halogenated Class 2 Non-halogenated Class 3 Special application	d	Solvent-based (non-aqueous for Type I)
				e	Solvent-based (non-aqueous for Types II and III)
		D	Hydrophilic emulsifier	f	Special application
		E ^a	Water and solvent removable		

^a Method E relates to application. Penetrant material qualified for method A are also considered qualified for method E.

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4.2 Sensitivity levels

4.2.1 General

Sensitivity levels shall be defined separately for penetrant, excess penetrant remover and developer, and for product families. Sensitivity levels of the different types of penetrants are not comparable.

4.2.2 Fluorescent product family

Sensitivity levels for this product family shall be defined by reference products:

- sensitivity level 1/2 (very low);
- sensitivity level 1 (low);
- sensitivity level 2 (medium);
- sensitivity level 3 (high);
- sensitivity level 4 (ultra-high).

Sensitivity level 1/2 applies to Type I method A only.

4.2.3 Colour contrast product family

Sensitivity levels for this product family shall be defined using the type 1 reference block in accordance with ISO 3452-3:

- sensitivity level 1 (normal);