
Ugotavljanje odpornosti materiala proti pronicanju kemikalij - 1. del: Pronicanje potencialno nevarnih tekočih kemikalij pri pogojih neprestanega stika

Determination of material resistance to permeation by chemicals - Part 1: Permeation by potentially hazardous liquid chemicals under conditions of continuous contact

Bestimmung des Widerstands von Material gegen Permeation mit flüssigen Chemikalien - Teil 1: Permeation von potentiell gefährlichen flüssigen Chemikalien bei kontinuierlichem Kontakt

Détermination de la résistance des matériaux à la perméation par les produits chimiques - Partie 1 : Perméation par les produits chimiques liquides potentiellement dangereux en condition de contact continue

Ta slovenski standard je istoveten z: EN 16523-1:2015/prA1

ICS:

13.340.01	Varovalna oprema na splošno	Protective equipment in general
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EUROPEAN STANDARD
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ICS 13.340.01

English Version

Determination of material resistance to permeation by chemicals - Part 1: Permeation by liquid chemical under conditions of continuous contact

Détermination de la résistance des matériaux à la
perméation par des produits chimiques - Partie 1 :
Perméation par un produit chimique liquide dans des
conditions de contact continu

Bestimmung des Widerstands von Materialien gegen
die Permeation von Chemikalien - Teil 1: Permeation
durch eine flüssige Chemikalie unter Dauerkontakt

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 162.

This draft amendment A1, if approved, will modify the European Standard EN 16523-1:2015. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 16523-1:2015/prA1:2017) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 89/686/EEC and Regulation (EU) 2016/425.

For relationship with EU Directive and EU Regulation, see informative Annexes ZA and ZB, which are integral parts of this document.

EN 16523-1:2015/prA1:2017 (E)**1 Modification to the Title**

Change the Titles of the standard as follows:

“Determination of material resistance to permeation by chemicals — Part 1: Permeation by potentially hazardous liquid chemicals under conditions of continuous contact

Bestimmung des Widerstands von Material gegen Permeation mit flüssigen Chemikalien — Teil 1: Permeation von potentiell gefährlichen flüssigen Chemikalien bei kontinuierlichem Kontakt

Détermination de la résistance des matériaux à la perméation par les produits chimiques — Partie 1: Perméation par les produits chimiques liquides potentiellement dangereux en condition de contact continue”

2 Modification to Clause 1 “Scope”

Replace in the third paragraph “adapted for” by “applicable to”:

“This test method is not applicable to the assessment of chemical mixtures, except for aqueous solutions.”

Replace in the fourth paragraph “EN 374-1” by “EN ISO 374-1:2016”:

“This standard is used with the specifications given in the products standards (for examples EN ISO 374-1:2016 for gloves) where the following information shall be defined”:

3 Modification to Clause 2 “Normative references”

Replace “EN 374-1” by “EN ISO 374-1:2016”:

“EN ISO 374-1:2016, *Protective gloves against dangerous chemicals and micro-organisms - Part 1: Terminology and performance requirements for chemical risks (ISO 374-1:2016)*”

4 Modification to 5.2 “Liquid collecting medium”

Replace 5.2 by the following:

“A liquid collecting medium is usually used for the collection of permeated challenge chemicals of low volatility that are soluble in the collecting medium under the conditions of the test. The challenge chemical shall be soluble in the collecting medium in sufficient quantities for analysis.

The liquid collecting medium shall not influence the resistance of a material to permeation.

NOTE Water is generally used (Water grade 3 see EN ISO 3696).

In the case of water soluble test specimen (e.g. PVAL-polyvinyl alcohol), an alternative collecting medium shall be used. It shall have no effect on the material.

Limitation due to collecting media: It should be recognized that there are circumstances under which the above criteria are mutually exclusive. For example, when testing a PVC (polyvinyl chloride) fabric for resistance to permeation by involatile isocyanates, it will be found that the challenge chemical is insoluble in aqueous collection media and that the test fabric is readily permeated or degraded by virtually all non-aqueous liquids. Under such circumstances testing is, unfortunately, not possible.”

5 Modification to 6.1.1 “Standard permeation cell”

Delete “sampling” in the key and the title of Figure 2 and Figure 3.

6 Modification to 6.4 “Liquid pump and stirrer (in case of a liquid collecting medium)”

Add a Note after the first paragraph:

“NOTE Annex D provides example of possible procedure.”

7 Modification to Clause 7 “Test specimens”

Replace in the first paragraph, second sentence, “EN 374-1” by “EN ISO 374-1:2016”:

“The selection of the test specimens shall be given in the products specifications standards (for example EN ISO 374-1:2016 for gloves).”

Add in the third paragraph “diameter” after “68 mm”:

“(about 68 mm diameter in the case of the reference cell).”

Add as new last paragraph the following:

“If not otherwise specified in the protective clothing, glove or footwear product standards:

- 3 test specimens shall be tested;
- they shall be conditioned for at least 16 h at a temperature of (23 ± 2) °C.”

8 Modification to 8.2

Change title of 8.2 as follows:

“8.2 Assembly of test specimens in the cells”

Replace the first sentence of the second paragraph by:

“The conditioned test specimen (see Clause 7) shall be mounted between the two halves of the permeation cell.”

9 Modification to 8.3 “Test procedure”

Modify the second item of the list as follows:

“— pour quickly the challenge chemical into the part B compartment for challenge chemical of the permeation cell (see Figure 3 and 4)”

Replace the paragraph after the list with the following:

“The concentration of the challenge chemical test in the collecting medium is measured periodically or continuously. If the challenge chemical is an aqueous solution, the permeation of water is not assessed. For non-continuous measurement, the number of measurements shall be sufficient to define the breakthrough time.”

Replace in the second paragraph after Note 2 “registered” by “recorded”.

Add the following paragraph as new last paragraph:

“If any problem happens during the test (for example a leak), the laboratory shall start the test again with another new test specimen.”

10 Modification to 8.5.1.3

Replace the second sentence by the following:

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“The lowest result of this second set is the result of the test.”

11 Modification to 8.6 “Uncertainty of measurement”

Replace the second sentence by the following:

“One of the three following approaches should be used”:

12 Modification to 9 “Test report”

Add “when requested” to 8):

“8) when requested, the permeation rate graphs”;

13 Modification to B.1 “General”

Add the following sentence at the end of B.1:

“Criteria for use of those following parameters can be given in the products standards (footwear, gloves and garment).”

14 Modification to Annex D

Modify the title of Annex D as follows:

“Possible techniques to assess flow and stirring for permeation with liquid collecting medium”

15 Modification to Annex ZA

Replace the existing Annex ZA by the following two Annexes ZA:

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 89/686/EEC aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/031 to provide one voluntary means of conforming to Essential requirements of Directive 89/686/EEC on the approximation of the laws of the Member States relating to personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex II of Directive 89/686/EEC

Essential Requirements of Directive 89/686/EEC	Clause(s)/subclause(s) of this EN	Remarks/Notes
3.10.2. Protection against cutaneous and ocular contact	Standard	Together with the requirements in the product standard

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.