



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 14325:2018

Protective clothing against chemicals - Test methods and performance classification of chemical protective clothing materials, seams, joins and

Habillement de protection contre les
produits chimiques - Méthodes d'essai et
classification de performance des
matériaux, coutures, jonctions et

Schutzkleidung gegen Chemikalien -
Prüfverfahren und Leistungseinstufung
für Materialien, Nähte, Verbindungen und
Verbünde

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National Foreword

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**Protective clothing against chemicals - Test methods and
performance classification of chemical protective clothing
materials, seams, joins and assemblages**

Habillement de protection contre les produits
chimiques - Méthodes d'essai et classification de
performance des matériaux, coutures, jonctions et
assemblages des vêtements de protection chimique

Schutzkleidung gegen Chemikalien - Prüfverfahren und
Leistungseinstufung für Materialien, Nähte,
Verbindungen und Verbünde

This European Standard was approved by CEN on 16 October 2017.

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European foreword

This document (EN 14325:2018) 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 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of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14325:2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

A list of significant technical changes between this document and the previous edition can be found in Annex A.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the performance classification and test methods for materials used in chemical protective clothing, including gloves and footwear. The gloves and boots should have the same chemical protective barrier requirements as the fabric when an integral part of the clothing. This is a reference standard to which chemical protective clothing performance standards may refer in whole or in part, but this standard is not exhaustive in the sense that product standards may well require testing according to test method standards which are not included in this standard.

While these performance levels are intended to relate to the usage to which the chemical protective clothing is to be put, it is essential that the chemical protective clothing manufacturer or supplier indicate the intended use of the protective clothing and that the user (specifier) carries out a risk assessment in order to establish the correct performance level for the intended task.

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.

EN 863:1995, *Protective clothing — Mechanical properties — Test method: Puncture resistance*

EN 13274-4:2001, *Respiratory protective devices — Methods of test — Part 4: Flame tests*

EN 20811:1992, *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*

EN ISO 139:2005, *Textiles — Standard atmospheres for conditioning and testing (ISO 139:2005)*

EN ISO 6530:2005, *Protective clothing — Protection against liquid chemicals — Test method for resistance of materials to penetration by liquids (ISO 6530:2005)*

EN ISO 7854:1997, *Rubber- or plastics-coated fabrics — Determination of resistance to damage by flexing (ISO 7854:1995)*

EN ISO 9073-4:1997, *Textiles — Test methods for nonwovens — Part 4: Determination of tear resistance (ISO 9073-4:1997)*

CEN ISO/TR 11610:2004, *Protective clothing — Vocabulary (ISO/TR 11610:2004)*

EN ISO 12947-2:2016, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 2: Determination of specimen breakdown (ISO 12947-2:2016)*

EN ISO 13934-1:2013, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:2013)*

EN ISO 13935-2:2014, *Textiles — Seam tensile properties of fabrics and made-up textile articles — Part 2: Determination of maximum force to seam rupture using the grab method (ISO 13935-2:2014)*

ISO 6529:2013, *Protective clothing — Protection against chemicals — Determination of resistance of protective clothing materials to permeation by liquids and gases*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in CEN ISO/TR 11610 and the following apply.

3.1

abrasion rub

one revolution of the outer drives of the Martindale abrasion tester

[SOURCE: EN ISO 12947-1:1998]

3.2

abrasion cycle

completion of all the translational abrasion movements tracing a Lissajous figure comprising 16 rubs, i.e. 16 revolutions of the two outer drives and 15 revolutions of the inner drive of the Martindale abrasion tester

[SOURCE: EN ISO 12947-1:1998]

3.3

material

one or several substances, in form of flexible planar structure, of which an item of clothing is made, excluding hardware and labels

3.3.1

single layer material

material consisting of only one layer

3.3.2

multilayer material

material consisting of several layers, which may be either permanently bonded together or intimately combined prior to the garment manufacturing stage, or which can be separated without any damage to each individual layer

Note 1 to entry: By “permanently bonded together” is meant for example by coating, laminating, gluing. By “intimately combined” is meant for example by weaving, quilting.

3.3.3

multilayer material consisting of separate layers

multilayer material, where individual layers that are neither permanently bonded together nor intimately combined, can be separated without any damage to the individual layers

3.4

specimen breakdown

in abrasion resistance or flex cracking resistance testing, the visually observed deterioration in a specimen after exposure to a specified number of abrasion rubs or cycles of flexing

EXAMPLE

- In woven fabrics, when two separate threads are completely broken;
- in knitted fabrics, when one thread is broken down;
- in pile fabrics, when the pile is fully worn off;