BS EN ISO 15025:2016

BSI Standards Publication

# Protective clothing — Protection against flame — Method of test for limited flame spread (ISO 15025:2016)

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## National foreword

This British Standard is the UK implementation of EN ISO 15025:2016. It supersedes BS EN ISO 15025:2002 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PH/3/2, Heat and Flame Personal Protective Equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO 15025

December 2016

ICS 13.220.40; 13.340.10

Supersedes EN ISO 15025:2002

English Version

# Protective clothing - Protection against flame - Method of test for limited flame spread (ISO 15025:2016)

Vêtements de protection - Protection contre les flammes - Méthode d'essai pour la propagation de flamme limitée (ISO 15025:2016)

Schutzkleidung - Schutz gegen Flammen - Prüfverfahren für die begrenzte Flammenausbildung (ISO 15025:2016)

This European Standard was approved by CEN on 21 November 2016.

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## European foreword

This document (EN ISO 15025:2016) has been prepared by Technical Committee ISO/TC 94 "Personal safety - Protective clothing and equipment" in collaboration with 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of an identical text or by endorsement, at the latest by June 2017, and conflicting national standards shall be withdrawn at the latest by June 2017.

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 15025:2002.

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(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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.

### Endorsement notice

The text of ISO 15025:2016 has been approved by CEN as EN ISO 15025:2016 without any modification.



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# Annex ZA
(informative)
# Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC

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 the Directive 89/686/EEC Personal Protective Equipment**

| Essential Requirements of Directive 89/686/EEC | Clause(s)/sub-clause(s) of this EN | Remarks/Notes |
|---|---|---|
| Protection against heat and/or fire<br>3.6.1 PPE constituent materials and other components | Complete 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.



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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 (see 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 (see 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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13, *Protective clothing*.

This second edition cancels and replaces the first edition (ISO 15025:2000), of which all clauses, several figures and Annex C have been technically revised. A new Clause 8 on sampling and sample preparation has been added. A new Annex D on precision has been added.

To improve precision, the following major modifications have been made from the first edition:

a) the width of the specimen for Procedure B has been changed from 160 mm to 80 mm;

b) the gas used has been limited to commercial grade propane;

c) definitions of several reported observations have been added or revised;

d) more detailed instructions for preparing hemmed specimens, multilayer specimens and seamed specimens have been added.


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# Introduction

The first edition of this document was initially prepared by ISO/TC 38/SC 19 as part of the revision of ISO 6940 and ISO 6941. This specific work item was transferred to Technical Committee ISO/TC 94/SC 13 in April 1997.

This method of test is closely related to the method of test specified in ISO 6941. It uses the same basic equipment but narrower specimen holders and templates for one procedure. Materials which do not burn to the upper or vertical edges of the test specimen used in this test may be classified as producing limited flame spread.

This method assesses the properties of textile fabrics in response to a short contact with a small igniting flame under controlled conditions.

The influence of seams on the behaviour of fabrics can be determined by this method, the seam being positioned within the test specimen so as to be subjected to the test flame.

Whenever practicable, trimmings should be tested as part of the fabric assembly on which they are or will be used.

A list of standards related to this document is given in the Bibliography.

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INTERNATIONAL STANDARD ISO 15025:2016(E)

# Protective clothing — Protection against flame — Method of test for limited flame spread

## 1 Scope

This document specifies two procedures (surface ignition and bottom-edge ignition) for determining flame spread properties of vertically oriented flexible materials in the form of single or multicomponent fabrics (coated, quilted, multilayered, sandwich constructions and similar combinations), when subjected to a small defined flame. This test standard does not apply to situations where there is restricted air supply or exposure to large sources of intense heat, for which other test methods are more appropriate.

This test method is not appropriate for materials that demonstrate extensive melting or shrinkage.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

**3.1**
**afterflame time**
duration of flaming after removal of ignition source

Note 1 to entry: It is also defined as the length of time for which a *material* continues to flame under the specified test conditions, after the ignition source has been removed

Note 2 to entry: Afterflame time is measured and reported to the nearest second.

**3.2**
**afterglow**
persistence of glowing combustion of a *material* (3.10) under specified test conditions, after cessation of afterflaming or, if no afterflaming occurs, after removal of the ignition source

Note 1 to entry: Afterglow is a continuation of combustion with the evolution of heat and light but without flame. Some materials absorb heat during the flame application and continue to emit this absorbed heat inside the charred area after removal of the igniting flame. This glowing inside the charred area without combustion should not be recorded as afterglow.

**3.3**
**afterglow time**
duration of *afterglow* (3.2)

Note 1 to entry: It is also defined as the time for which a glowing combustion continues, under specified test conditions after cessation of afterflaming or, if no afterflaming occurs, after removal of the ignition source

Note 2 to entry: Afterglow time is measured and reported to the nearest second.

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