



SLOVENSKI STANDARD

SIST EN 1103:2006

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Nadomešča:
SIST EN 1103:1999

Tekstilije - Gorljivost - Oblačilne tekstilije - Podroben opis postopka za ugotavljanje gorljivosti oblačilnih tekstilij

Textiles - Fabrics for apparel - Detailed procedure to determine the burning behaviour

Textilien - Bekleidungstextilien - Detailliertes Verfahren zur Bestimmung des Brennverhaltens

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Textiles - Etoffes pour vêtements - Procédure détaillée pour déterminer le comportement au feu

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Ta slovenski standard je istoveten z: EN 1103:2005

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
61.020	Oblačila	Clothes

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en,fr,de

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English Version

**Textiles - Fabrics for apparel - Detailed procedure to determine
the burning behaviour**Textiles - Tissus pour habillement - Procédure détaillée
pour la détermination du comportement à la flammeTextilien - Bekleidungstextilien - Detailliertes Verfahren zur
Bestimmung des Brennverhaltens

This European Standard was approved by CEN on 28 October 2005.

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 Central Secretariat or to any CEN member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

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CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard (EN 1103:2005) has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

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 2006, and conflicting national standards shall be withdrawn at the latest by June 2006.

This European Standard supersedes EN 1103:1995.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EN 1103:2005 (E)**1 Scope**

This European Standard specifies a procedure to determine the burning behaviour of textiles for apparel – other than protective clothing – before and after cleansing, when tested using the surface ignition test in EN ISO 6941.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3175-2, *Textiles — Dry-cleaning and finishing — Part 2: Procedure for tetrachloroethene (ISO 3175-2:1998)*

EN ISO 3175-3, *Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments — Part 3: Procedure for testing performance when cleaning and finishing using hydrocarbon solvent (ISO 3175-3:2003)*

EN ISO 3175-4, *Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments — Part 4: Procedure for testing performance when cleaning and finishing using simulated wetcleaning (ISO 3175-4:2003)*

EN ISO 6330:2000, *Textiles — Domestic washing and drying procedures for textile testing (ISO 6330:2000)*

EN ISO 6941:2003, *Textile fabrics — Burning behaviour — Measurement of flame spread properties of vertically oriented specimens (ISO 6941:2003)*

3 Terms and definitions

For the purpose of this European Standard, the terms and definitions given in EN ISO 6941:2003 and the following apply.

3.1**surface flash**

rapid spread of flame over the surface of a material without ignition of its basic structure, reaching the first marker thread, which may or may not be severed, or either vertical edge of the test specimen

3.2**flaming debris**

material separating from the specimen during the test procedure, falling below the initial edge of the specimen and igniting a filter paper

4 Cleansing (pre-conditioning)

The materials shall be washed once in accordance with the procedure of EN ISO 6330, corresponding to their care labelling.

Materials without care labelling instructions shall be washed once in accordance with EN ISO 6330:2000, procedure 6A at (40 ± 3) °C and dried in accordance with EN ISO 6330:2000, procedure E (tumble-drying). Materials that may not be tumble-dried shall be dried in accordance with procedure A (line dry).

Materials which are labelled as "dry clean only" shall be dry-cleaned once in accordance with the appropriate part of EN ISO 3175 as given in Clause 2.

NOTE This washing or dry cleaning procedure is not intended as a durability test for flame retardant treatments.

5 Conditioning

The dried test specimens and filter paper shall be conditioned for at least 24 h in the standard atmosphere of (23 ± 2) °C and (50 ± 5) % relative humidity.

If the test is not to be carried out immediately after conditioning, the individual specimens and filter papers shall be placed in sealed containers until the start of the test. Each specimen shall be tested within 3 min of removing it from either the conditioning chamber or the sealed container.

6 Test specimens

6.1 General

All materials or material combinations shall be tested both before and after the cleansing procedure as indicated in Clause 4.

Only the outer surface of the fabric, as worn in garment form, shall be tested. If the outer surface cannot be identified only the surface which is shown by pre-testing to present a surface flash shall be tested. If surface flash is not present on either surface, the surface that spreads flame at a higher rate shall be tested.

The dimensions of the specimens for pre-testing shall be as indicated in 6.2. Both length and width direction shall be tested.

Pre-testing shall be carried out as indicated in Clause 7.

Test specimens for clothing may consist of one or more layers of materials according to the construction of the clothing. In this case the combination of materials as worn shall be tested.

6.2 Number of specimens

Cut six specimens, representative for the fabric as manufactured, each 560 mm long and 170 mm wide. Three with the longer dimensions in the length direction and three with the longer dimension in the width direction.

7 Test procedure

7.1 Carry out the test in accordance with the test procedure prescribed in EN ISO 6941:2003, 10.1 surface ignition, with the following modifications and/or limitations:

- flame application time 10 s;
- commercial gas: propane;
- the first and the third marker thread shall be used.

7.2 Specimen preparation and mounting (for pile fabrics only)

- hold the specimen at the short edge and raise the pile of the fabric by shaking the test specimen once. This should be a sharp shake so the fabric cracks like a whip. This will ensure that all loose cut loops are removed;
- when tested in the length direction, position the specimen with the pile downward on the pin frame.

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7.3 Position horizontally, below the test specimens, at a distance of (50 ± 5) mm from the lower edge of the specimen, on a flat surface, a piece of filter paper, with the following characteristics:

- dimensions: at least 150 mm × 100 mm;
- mass per unit area: (80 ± 20) g/m²;
- thickness: $(0,20 \pm 0,05)$ mm;
- alpha-cellulose content: ≥ 95 %.

7.4 Measure and note for each specimen tested:

- the time in seconds from the start of the application of the igniting flame to the severance of the first marker thread;
- the time in seconds from the start of the application of the igniting flame to the severance of the third marker thread;
- if surface flash has occurred;
- if the filter paper ignites or not.

7.5 If the first or the first and the third marker threads are not severed, the after-flame time in seconds shall be noted for each specimen.

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8 Test report

The test report shall include the following information:

- a) reference to this European Standard;
- b) identification of the fabric tested;
- c) cleansing and drying procedure used;
- d) date of test;
- e) which surface was tested;
- f) for each test specimen (before and after cleansing) the information itemized in 7.4 and 7.5;
- g) if all the specimens burn: the mean flame spread time (in s) from the first marker thread to the third marker thread for each direction;
- h) any deviations from this procedure.

NOTE The method specified has been found to give poor repeatability and reproducibility when certain knitted fabrics are tested. These knitted fabrics sag when mounted as specified in EN ISO 6941, making it difficult to hold the specimen in a vertical plane and to control the distance from the burner to the specimen. If specimen sagging problems are encountered they should be reported. (The specimen mounting technique may have to be modified and slight tension applied to knitted specimens to hold them flat).