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मानक

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IS 15727-4 (2007): Textiles - Burning behaviour of bedding items, Part 4: Specific test methods for the ignitability by small open flame [TXD 32: Textiles Protective Clothing]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
वस्त्रादि — बिस्तरों का ज्वलन व्यवहार
भाग 4 छोटी खुली ज्वाला में ज्वलनशीलता ज्ञात करने की विशेष पद्धतियाँ

Indian Standard

**TEXTILES — BURNING BEHAVIOUR OF BEDDING
ITEMS**

**PART 4 SPECIFIC TEST METHODS FOR THE IGNITABILITY BY A SMALL OPEN
FLAME**

ICS 13.220.40;97.160.00

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NATIONAL FOREWORD

This Indian Standard (Part 4) which is identical with ISO 12952-4 : 1998 'Textiles — Burning behaviour of bedding items — Part 4: Specific test methods for the ignitability by a small open flame' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Chemical Methods of Test Sectional Committee and approval of the Textile Division Council.

The conditioning temperature of $20 \pm 2^\circ\text{C}$ as specified in International Standard is not suitable for tropical countries like India where the atmospheric temperature is normally much higher than 20°C . It is almost impossible to maintain this temperature specially during summer when the atmospheric temperature rises even up to 50°C . In view of the above, IS 6359 : 1971 'Method for conditioning of textiles' specifies a temperature of $27 \pm 2^\circ\text{C}$ for conditioning of the test specimens for the tropical countries like India. This standard is being followed in testing of textiles and other products since decades.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' or 'European Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

TEXTILES — BURNING BEHAVIOUR OF BEDDING ITEMS

PART 4 SPECIFIC TEST METHODS FOR THE IGNITABILITY BY A SMALL OPEN FLAME

1 Scope

This European Standard specifies product-specific details concerning specimen size, wash procedures, set-up of specimens and positions of the ignition source for testing bedding items according to the method described in EN ISO 12952-3.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN ISO 12952-3	Textiles - Burning behaviour of bedding items - Part 3: General test methods for the ignitability by a small open flame (ISO 12952-3:1999)
EN ISO 3175	Textiles - Evaluation of stability test methods to machine dry-cleaning (ISO 3175:1995)
ISO 26330	Textiles - Domestic washing and drying procedures for textile testing (ISO 6330:1984)
ISO/IEC GUIDE 52	Glossary of fire terms and definitions

3 Testing of individual bedding items

3.1 Test specimen

Flat materials shall be cut to (450 x 450) mm.

For pillows the test specimen shall be a full-sized item.

Bolsters shall be cut to a maximum length of 450 mm.

Quilts and duvets shall be cut to (450 x 450) mm (edges should be sealed if necessary). The test specimens shall include two original edges.

3.2 Cleaning procedures

Bedding items that are regularly cleaned in use shall be tested after five cleaning cycles, unless a higher number is specified.

Cleaning should be carried out in agreement with the method specified by the producer. If no method has been specified, the product shall be washed in accordance with method 2A of ISO 26330 and specimens shall not be dried between wash cycles.

If dry-cleaning is specified, use EN ISO 3175.

3.3 Set-up of test specimens and positions of ignition source

3.3.1 Positioning of the ignition source

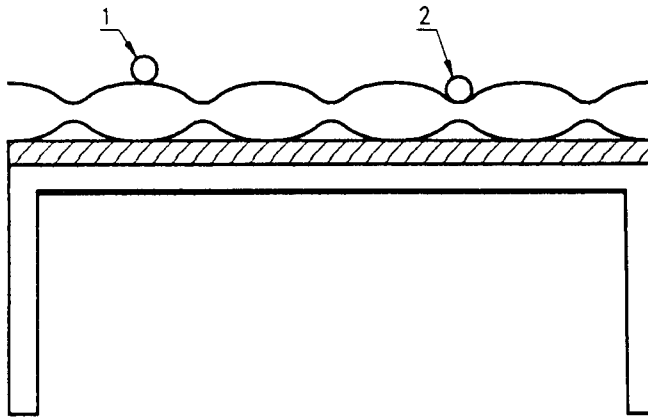
The burner tube shall be held horizontally and shall be brought into contact with the surface of the test specimen, without any pressure and without releasing it.

3.3.2 Flat bedding items

The test specimen shall be placed flat on the test rig with the testing substrate. Place the ignition source flat on top the test specimen. The position of the ignition source shall be at least 100 mm away from the edges of the specimen and at least 200 mm away from any marks left by any previous test.

3.3.3 Quilts

Place the test specimen flat on the test rig with the testing substrate. Place the ignition source horizontally on top of the flat part of the quilt, at least 100 mm away from the edges. Carry out an additional test with the ignition source placed along the line of stitching on top of the test specimen (see figure 1). In repeat tests, place the ignition source at least 200 mm away from any mark left from any previous test.

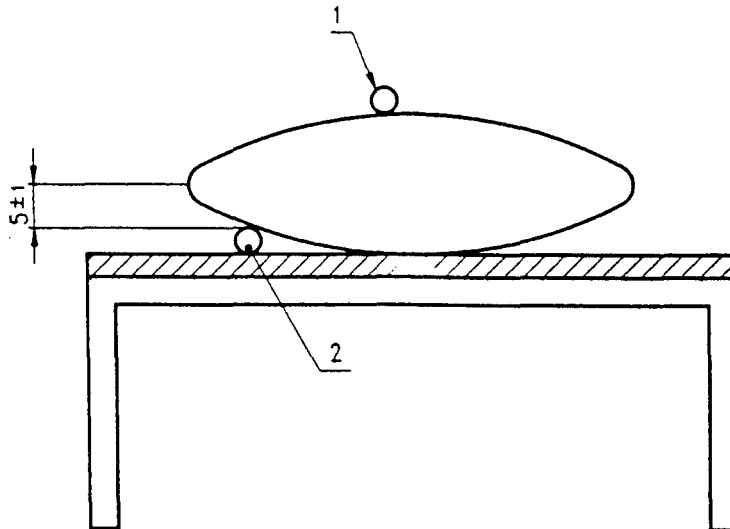


- 1 Ignition source placed horizontally on flat upper surface
- 2 Ignition source placed on line of stitching

Figure 1 : Position of ignition source

3.3.4 Pillows/Bolsters

The test specimen shall be placed flat on the test rig with the testing substrate. The ignition source shall be placed horizontally on the flat upper surface of the test specimen. An additional test shall be carried out with the ignition source placed horizontally (5 ± 1) mm below the specimen edge and with the centreline of the ignition source in the same plane as the test specimen edge (see figure 2).



- 1 Ignition source placed horizontally on flat upper surface
- 2 Ignition source placed in the same plan as pillow edge

Figure 2 : Position of ignition source

3.3.5 Duvets

The test specimen shall be tested like a pillow. For the test with the ignition source below the test specimen, the test specimen edge shall be an original one.

4 Testing of complete composites or of combinations of bedding items

4.1 Applicability

In cases where more than one or all bedding items are known, they shall be tested together because of possible interactions of the ignitability of the individual items. The relative positions of the individual items to each other during testing shall represent as closely as possible the actual set-up of the composite.

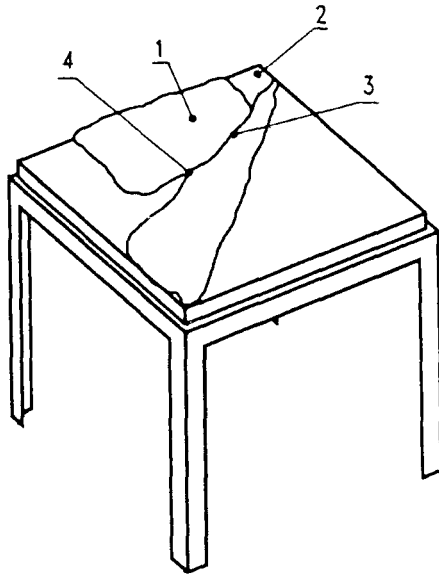
4.2 Set-up of testing composite arrangement

4.2.1 Dimensions of component test specimens making up the testing composite arrangement

Test specimens shall be cut from the components in the same way and to the same size as when testing them individually. Pillows and duvets shall be reduced to a size of (225x225) mm.

4.2.2 Positions of component test specimens and of ignition source

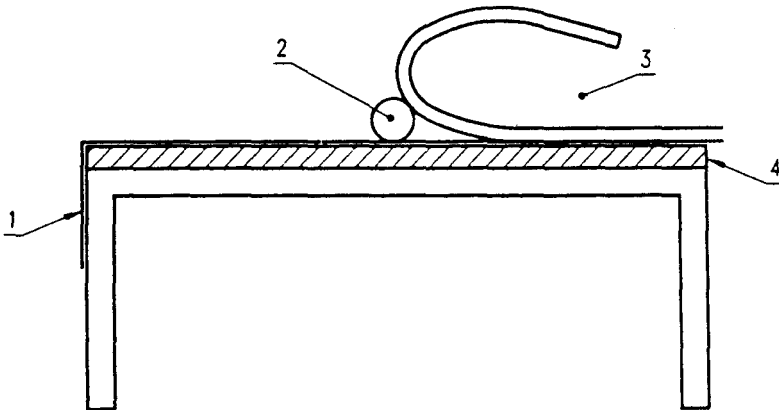
When a pillow (or bolster) and bed covers (blanket, quilt, duvet) are placed over the bottom sheet, incontinence sheet (if applicable) and mattress cover, the ignition source shall be placed centrally at the junction of pillow, bottom sheet and bed covers. The bed covers shall be folded back at an angle of approximately 30° (see figure 3). The burner tube shall be held horizontally and shall be brought into contact with the surface of the test specimens at the position shown in figure 3, without any pressure and without releasing it.



- 1 Pillow (half-scale size)
- 2 Bottom sheet in position
- 3 Top bed covers folded back at an angle of approximately 30°
- 4 Ignition source placed centrally at junction between bottom sheet and folded back top bed covers

Figure 3 : Position of ignition source

When combinations of components are tested without a pillow, the ignition source shall be placed at the junction of the bottom sheet and the bed cover (see figure 4).



- 1 Bottom sheet
- 2 Ignition source placed at junction of bottom sheet and bedcover
- 3 Bedcovers (folded in half)
- 4 Testing substrate

Figure 4 : Position of ignition source

When no pillow or bed covers are used, the combination of the bottom sheet with any underlying sheet shall be tested as in 3.3.2.

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Amendments Issued Since Publication

Amendment No.	Date of Issue	Text Affected

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