
**Textiles — Burning behaviour of bedding
items —**

Part 2:
Specific test methods for the ignitability by
a smouldering cigarette

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Textiles — Comportement au feu des articles de literie —

*Partie 2: Méthodes d'essai spécifiques pour l'allumabilité par une cigarette
en combustion*

[ISO 12952-2:1998](#)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 12952 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12952-2 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee TC 38, *Textiles*, Subcommittee SC 19, *Burning behaviour of textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this standard, read “..this European Standard...” to mean “...this International Standard...”.

ISO 12952 consists of the following parts, under the general title *Textiles — Burning behaviour of bedding items*:

- *Part 1: General test methods for the ignitability by a smouldering cigarette*
- *Part 2: Specific test methods for the ignitability by a smouldering cigarette*
- *Part 3: General test methods for the ignitability by a small open flame*
- *Part 4: Specific test methods for the ignitability by a small open flame*

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Printed in Switzerland

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Foreword

The text of EN ISO 12952-2:1999 has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 38 "Textiles".

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 July 1999, and conflicting national standards shall be withdrawn at the latest by July 1999.

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

Introduction

Fires are sometimes caused by the ignition of bedding items by smokers materials; the ignitability of bedding items by a smouldering cigarette or a small open flame is therefore an important feature in the assessment of the risk of fire.

It cannot be assumed that protection against a smouldering ignition source will automatically give protection against flaming ignition. Users of this standard should, thus, consider the need to submit test specimens to both cigarette and flaming ignition tests.

EN ISO 12952-1 and EN ISO 12952-2 describes a test method with the smouldering cigarette as ignition source. Testing against the ignition source of a small open flame forms the contents of EN ISO 12952-3 and EN ISO 12953-4.

This European Standard may be used for the assessment of ignitability of individual items of bedding and of composite arrangements.

EN ISO 12952-1 and EN ISO 12952-3 describe general testing procedure and aspects of testing common to all bedding items; EN ISO 12952-2 and EN ISO 12952-4 contain all details necessary for the testing of the specific bedding items.

As EN ISO 12952-1 and EN ISO 12952-2 complement each other, EN ISO 12952-2 cannot be used without also considering the general aspects of the test method given in EN ISO 12952-1.

WARNING: This test relates only to the ignitability of materials under the particular conditions of test. It is not intended as a means of assessing the full potential fire hazard of the bedding item in use.

Particular attention is drawn to the possibility of ignition of lower parts of a bedding assembly when using bedding items which are not themselves ignited.

1 Scope

This European Standard specifies product specific details concerning specimens size, wash procedures, set-up of specimens and positions of cigarettes for testing bedding items according to the method described in EN ISO 12952-1.

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 12952-1	Textiles - Burning behaviour of bedding items - Part 1: General test methods for the ignitability by a smouldering cigarette (ISO 12952-1:1999)
EN ISO 3175	Textiles - Evaluation of stability 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

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3 Testing of individual bedding items

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3.1 Test specimen <https://standards.iteh.ai/catalog/standards/sist/440a620d-5234-4a8f-b7bd-c4ac6fd59f59/iso-12952-2-1998>

Flat materials that will not normally be folded in use (e.g. mattress covers) shall be cut to (450 x 450) mm.

Flat materials that will normally be folded in use (e.g. sheets, blankets) shall be cut to (450 x 1350 ± 5) mm to allow for folding three times lengthwise.

Bolsters and pillows may be cut to a maximum length of 450 mm.

Quilts and duvets may 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 cleansed in use shall be tested after five cleansing 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 the method 2A of ISO 26330 procedure 2A and specimens shall not be dried between wash cycles.

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

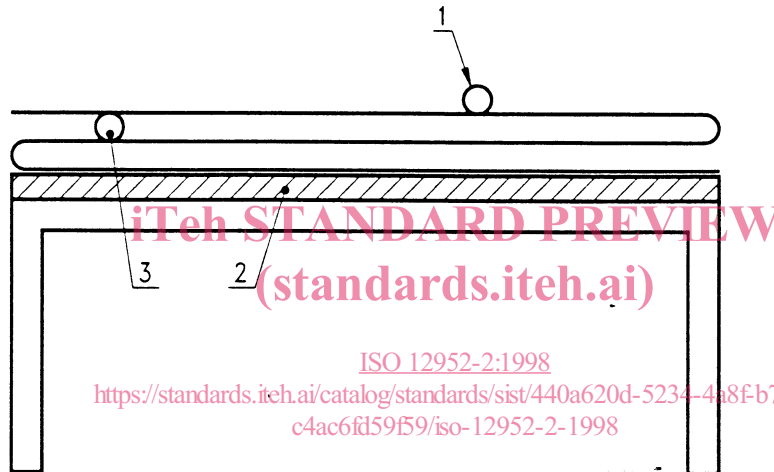
3.3 Set-up of test specimens and positions of cigarettes

3.3.1 Flat bedding items that will not be folded in use

The test specimen shall be placed flat on the test rig with the testing substrate. Four lit cigarettes shall be placed on it, two in the length direction and two in width direction. The positions of the cigarettes shall be at least 100 mm away from the edges of the specimen and at least 100 mm away from each other.

3.3.2 Flat bedding items that will normally be folded in use (e.g. sheets or blankets)

Fold the test specimen in such a way that three layers of 450 mm length are formed. Place the test specimen on the test rig on the top of the testing substrate and lift the top layer. Place one lit cigarette between the top and second layer. Replace the top layer. Place a second cigarette on top of the top layer of the test specimen (see figure 1). The positions of the cigarettes shall be at least 100 mm away from the edges of the specimen and at least 100 mm away from each other.

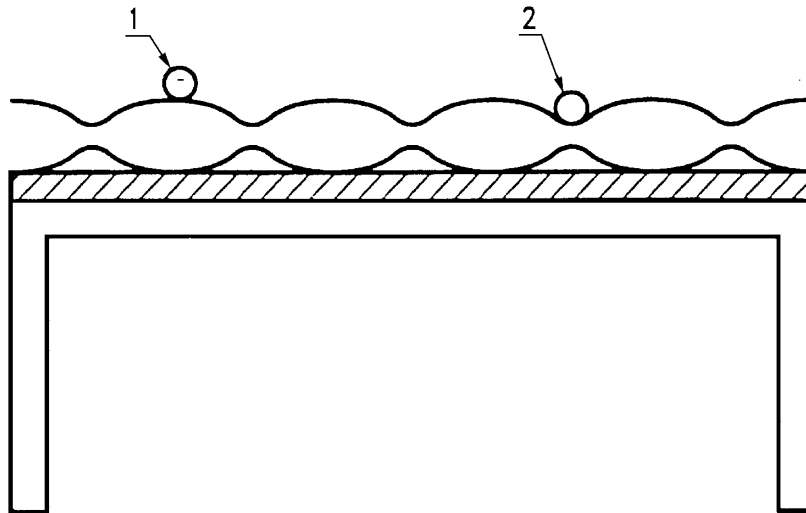


- 1 Cigarette placed on top surface
- 2 Testing substrate
- 3 Cigarette placed between top surface and second fold

Figure 1 : Position of cigarettes

3.3.3 Quilts

Place the test specimen (450 x 450) mm flat on the test rig with the testing substrate. Place three lit cigarettes in such a way that one will be on top of the flat part of the quilt, one will be on a line of stitching and one will be beneath the thickest part of the quilt (see figure 2). The positions of the cigarettes shall be at least 100 mm away from the edges of the specimen and at least 100 mm away from each other.



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

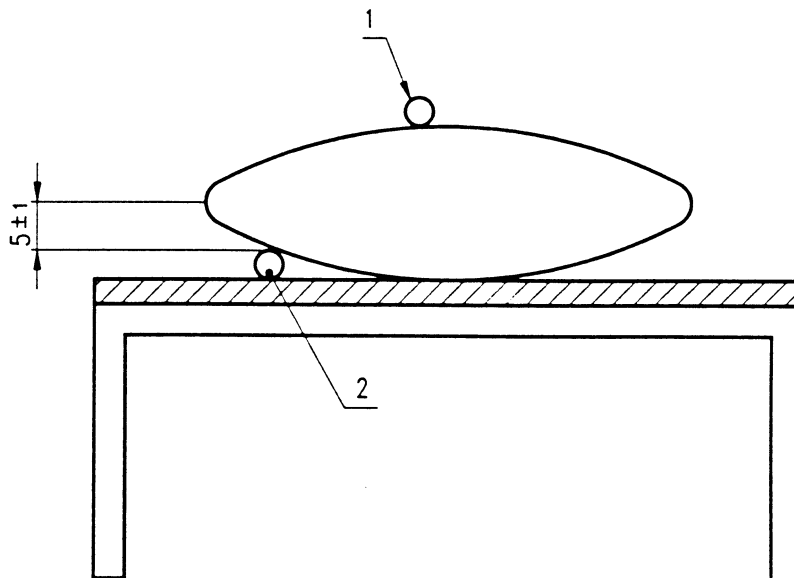
Figure 2 : Position of cigarettes for quilts

3.3.4 Pillows / Bolsters

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The test specimen shall be placed flat on the test rig with the testing substrate. Two lit cigarettes shall be placed in such a way that one will be on the flat upper surface of the specimen and one at the junction of the specimen with the testing substrate (see figure 3). The positions of the cigarettes shall be at least 100 mm away from the edges of the specimen and at least 100 mm away from each other.

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

Figure 3 : Position of cigarettes

3.3.5 Duvets

The test specimen shall be tested like a pillow. One cigarette shall be placed under one of the original edges.

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

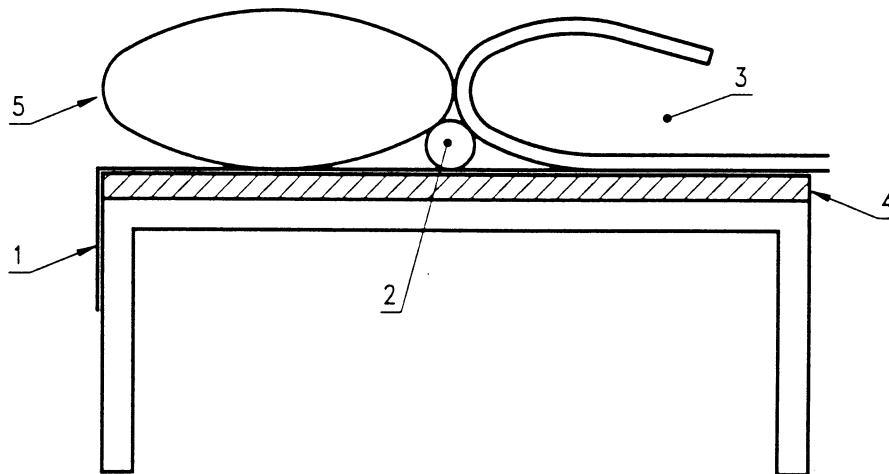
4.2.1 Dimensions of component test specimens making up the testing composite arrangement

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 (225 x 225) mm and flat bedding items normally folded in use that shall be cut to (450 x 450) mm only.

4.2.2 Positions of component test specimens and of cigarettes

4.2.2.1 When a pillow (or bolster) and bed covers (blanket, quilt, duvet) are placed over the bottom sheet, incontinence sheet (if applicable) and mattress cover, one light cigarette shall be placed on the bottom sheet at the junction of pillow and bed covers (see figure 4).

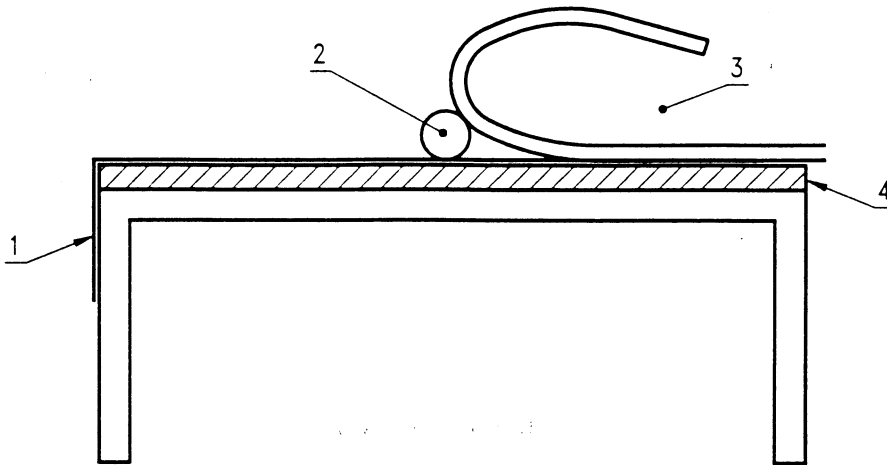
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- 1 Bottom sheet
- 2 Cigarette placed at junction of pillow and bedcovers
- 3 Bedcovers (folded in half)
- 4 Testing substrate
- 5 Pillow

Figure 4 : Position of cigarettes

4.2.2.2 When combinations of bedding items are tested without a pillow, the cigarette shall be placed at the junction of the bottom sheet and the bed cover (see figure 5).



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

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Figure 5 : Position of cigarettes

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4.2.2.3 When no pillow or bed covers are used, the combination of the bottom sheet with any underlying sheet shall be tested as in 3.3.1.