

Flexible polyurethane cellular materials for loadbearing applications — Specification

ICS 83.100; 83.140.01

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PRI/71, Flexible cellular materials, upon which the following bodies were represented:

- British Rubber Manufacturers Assn. Ltd
- FIRA — Furniture Industry Research
- FIRA International
- Furniture, Timber & Allied Trades Union
- MoD — UK Defence Standardization
- National Bed Federation Limited
- Society of Motor Manufacturers and Traders Limited

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 12 February 2003

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First published April 1961
Second edition May 1975
Third edition February 1991
Fourth edition February 2003

The following BSI references relate to the work on this British Standard:
Committee reference PRI/71
Draft for comment 01/123053 DC

Amendments issued since publication

Date	Amd. No.	Comments
14646 Corrigendum No. 1	5 September 2003	Changes to Foreword, Clause 2, Table 7 and Figure 1

ISBN 0 580 41155 9

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Foreword

This British Standard has been prepared by Technical Committee PRI/71, Flexible cellular materials. It supersedes BS 3379:1991, which is withdrawn. However, it should be noted that BS 3379:1975, which was superseded by BS 3379:1991, remains current because it is called up by the UK Furniture Regulations for defining the standard test foam for use in the flammability test for textiles.

NOTE 1 BS 3379:1975 was erroneously withdrawn on publication of BS 3379:1991; it has now been reinstated.

NOTE 2 BSI Customer Services will respond to purchase orders for BS 3379 by supplying copies of the 2003 edition. Copies of the 1975 edition can be obtained by quoting "BS 3379:1975".

This new edition incorporates technical changes only; it does not represent a full review or revision of the standard, which will be undertaken in due course.

The main changes incorporated in this new edition are as follows.

- a) There is now only one set of property requirements for each of the classes of service type shown in Table 7.
- b) Many of the normative test procedures now make reference to BS EN ISO documents that have superseded the equivalent British Standards.
- c) A test method now exists for compression set under humid conditions. This is specified in BS ISO 13362. Table 7 has therefore been revised and now specifies maximum humid compression set values.
- d) Appendix C: Burning properties of flexible urethane cellular material and recommendations regarding its use, has been omitted.

With effect from 1 March 1989 only "combustion modified" materials have been legally permitted under the Furniture and Furnishings (Fire) (Safety) Regulations 1988 [1] and the Furniture and Furnishings (Fire) (Safety) (Amendment) Regulations 1989 [2] for use in domestic upholstered furniture, mattresses and bed bases.

Whilst this legislation does not include upholstered furniture, mattresses and bed bases used in non-domestic environments, resistance to ignition of these items is specified in BS 7176 and BS 7177.

Recommended applications for the range of flexible polyurethane cellular materials specified in this standard are listed in Annex B.

This British Standard is similar but not identical to ISO 5999 which classifies foam in the same manner as this standard but does not have UK oriented flammability classes.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 11 and a back cover.

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1 Scope

This British Standard specifies requirements for flexible loadbearing combustion modified, reduced ignitability, and unmodified polyurethane cellular materials, manufactured in block, sheet and strip form, in moulded and fabricated shapes and as reconstituted material.

This standard does not cover materials created in situ or those for use in heat-welded systems unless for loadbearing purposes.

In addition to the definitive requirements, this standard also requires the items detailed in Clause 3 to be documented. For compliance with this standard, both the definitive requirements and the documented items have to be satisfied.

2 Normative references

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

BS 4023:1975, *Specification for flexible cellular PVC sheeting*.

BS EN ISO 1798, *Flexible cellular polymeric materials — Determination of tensile strength and elongation at break*.

BS EN ISO 1856, *Flexible cellular polymeric materials — Determination of compression set*.

BS EN ISO 2439, *Flexible cellular polymeric materials — Determination of hardness (indentation technique)*.

BS EN ISO 2440, *Flexible and rigid cellular polymeric materials — Accelerated ageing tests*.

BS EN ISO 3385, *Flexible cellular polymeric materials — Determination of fatigue by constant-load pounding*.

BS ISO 13362, *Flexible cellular polymeric materials — Determination of compression set under humid conditions*.

3 Information and requirements to be agreed and documented

The following information to be supplied by the purchaser shall be fully documented. For compliance with the standard both the definitive requirements specified throughout the standard and the following documented items shall be satisfied:

- a) colour of the material (see Clause 5);
- b) surface condition (see Clause 7);
- c) component mass (see Clause 8);
- d) dimensions (see Clause 9);
- e) cleanliness of reconstituted foam (see 10.3);