
**Flexible cellular polymeric
materials — Polyurethane foam for
load-bearing applications excluding
carpet underlay — Specification**

*Matériaux polymères alvéolaires souples — Mousse de polyuréthane
pour utilisations soumises à des charges, à l'exclusion des revers de
tapis — Spécifications*



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Classification	2
3.1 Type	2
3.2 Class	2
3.3 Grade	5
4 Requirements	5
4.1 Material	5
4.2 Construction	6
4.3 Surface condition	6
4.4 Odour	6
4.5 Colour	6
4.6 Component mass and density	6
4.7 Dimensions	6
4.8 Physical properties	7
4.9 Burning properties	10
5 Test methods	10
5.1 Test conditions	10
5.2 Mass	11
5.3 Dimensions	11
5.4 Density	11
5.5 Hardness	11
5.6 Resilience	11
5.7 Compression set	11
5.8 Dynamic fatigue by constant-load pounding	11
5.9 Tensile strength and elongation at break	11
5.10 Burning behaviour	11
5.11 Heat ageing	11
5.12 Humidity ageing	11
6 Inspection	12
6.1 General	12
6.2 Type inspection	12
6.3 Shipping inspection	12
7 Marking	12
Annex A (informative) Typical applications for each class of material	14
Annex B (informative) Burning properties of flexible polyurethane foam and recommendations regarding its use	15
Bibliography	17

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. www.iso.org/directives

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The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*.

This third edition cancels and replaces the second edition (ISO 5999:2007), which has been technically revised.

Flexible cellular polymeric materials — Polyurethane foam for load-bearing applications excluding carpet underlay — Specification

1 Scope

This International Standard specifies requirements for flexible load-bearing polyurethane foam of the polyether type.

It is applicable to flexible polyurethane cellular materials manufactured in block, sheet and strip form, in moulded and fabricated shapes, and as reconstituted material, used for load-bearing applications in general, but excluding carpet backing and underlay. It, thus, primarily relates to the quality of polyurethane foam used for comfort cushioning purposes.

The foam is classified according to the type of foam, the performance during a fatigue test, and the indentation hardness index used as a means of grading materials.

This International Standard is not applicable to polyurethane foams foamed in place or to foams for use in heat-welded systems unless for load-bearing purposes.

Recommended applications for the range of flexible polyurethane foams covered by this International Standard are listed in [Annex A](#).

2 Normative references

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

ISO 845, *Cellular plastics and rubbers — Determination of apparent density*

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

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

ISO 1923, *Cellular plastics and rubbers — Determination of linear dimensions*

ISO 2439:2008, *Flexible cellular polymeric materials — Determination of hardness (indentation technique)*

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

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

ISO 3582, *Flexible cellular polymeric materials — Laboratory assessment of horizontal burning characteristics of small specimens subjected to a small flame*

ISO 3795, *Road vehicles, and tractors and machinery for agriculture and forestry — Determination of burning behaviour of interior materials*

ISO 8307, *Flexible cellular polymeric materials — Determination of resilience by ball rebound*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*