

Expanded polystyrene boards —

Part 2: Specification for extruded boards

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The preparation of this British Standard was entrusted by the Plastics Standards Policy Committee (PLM/-) to Technical Committee PLM/46, upon which the following bodies were represented:

- Association of Building Component Manufacturers Ltd.
- Brick Development Association
- British Board of Agrément
- British Plastics Federation
- British Rigid Urethane Foam Manufacturers' Association
- Calcium Silicate Brick Association Ltd.
- Cavity Foam Bureau
- Chief and Assistant Chief Fire Officers' Association
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Construction Industries Directorate)
- Department of the Environment for Northern Ireland
- Engineering Equipment and Materials Users' Association
- Flat Roofing Contractors' Advisory Board
- Loss Prevention Council
- Ministry of Defence
- National Cavity Insulation Association
- National Federation of Roofing Contractors
- National House-building Council
- Phenolic Foam Manufacturers' Association
- Polyethylene Foam Insulation Association
- Royal Institute of British Architects

The following bodies were also represented in the drafting of the standard, through sub-committees and panels:

- Department of the Environment (Property Services Agency) Thermal Insulation Manufacturers' and Suppliers' Association (TIMSA)

This British Standard, having been prepared under the direction of the Plastics Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 28 February 1990

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Foreword

This Part of BS 3837 has been prepared under the direction of the Plastics Standards Policy Committee. It was first published in 1965. Parts 1 and 2 constitute a revision of the 1977 edition which is withdrawn.

This revision, issued as Part 2 which more accurately reflects the current technology, now separates the two types of board hitherto covered by the 1977 edition, such that Part 1 specifies the requirements for cut and moulded boards manufactured from expandable beads, and Part 2 those made as extruded boards. Part 1 was issued in 1986.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 3837 specifies the classification, compositional, dimensional and property requirements for seven grades of extruded polystyrene foam in the form of integral skinned or planed boards not less than 10 mm thick for use at temperatures up to 75 °C. (See clause 2).

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Classification and composition

2.1 Composition

Extruded boards shall consist of cellular polystyrene including flame retardants and minor additives.

NOTE It is normal for some grades to be coloured.

2.2 Structure

Board structures shall be either of the following.

- Integral skinned boards, i.e. boards with skins formed during the manufacturing process.
- Planed boards, i.e. boards where the integral skins have been removed by planing.

2.3 Grade

Extruded boards shall be divided into seven grades, E1 to E7, which differ in their load bearing and surface characteristics.

NOTE Further information on suitable uses for each grade is given in Appendix A.

3 Dimensions and dimensional tolerances

3.1 Dimensions

Dimensions shall be measured by method 1A, 1B or 1C of BS 4370-1.

NOTE No specific sizes are included here but guidance on sizes is given in Appendix B.

3.2 Dimensional tolerances

The tolerances for thickness shall be in accordance with the requirements of Table 1; lengths and widths shall comply with the requirements given in Table 2 and diagonals shall comply with the requirements given in Table 3.

Table 1 — Dimensional tolerances for thickness

Thickness	Permissible deviations
mm	mm
10 to < 20	± 1
20 to ≤ 50	± 2
≥ 50	± 3

Table 2 — Dimensional tolerances for length and width

Lengths or widths	Permissible deviations
mm	mm
< 1 000	± 5
1 000 to < 2 000	± 7.5
2 000 up to and including 4 000	± 10

Table 3 — Dimensional tolerances for diagonals

Diagonals	Maximum differences in the lengths of the diagonals
mm	mm
< 1 000	5
1 000 to < 2 000	7
2 000 up to and including 4 000	13

4 Physical properties

The physical properties shall comply with the requirements given in Table 4 when tested in accordance with the methods indicated therein.

5 Marking

The boards preferably (or failing this the packaging label) shall be marked with at least the following information:

- the number and date of this British Standard, i.e. BS 3837-2:1990¹⁾;
- the grade (see 2.3), e.g. E1;
- the manufacturer's name or trademark.

¹⁾ Marking BS 3837-2:1990 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is therefore solely the responsibility of the person making the claim. Such a declaration is not to be confused with third party certification of conformity, which may also be desirable.