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Guidance on the new European Standards for thermal insulation materials

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Committees responsible for this Published Document

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Autoclaved Aerated Concrete Products Association
Brick Development Association
British Rigid Urethane Foam Manufacturers' Association
British Vermiculite Association
Concrete Block Association
Consumer Policy Committee of BSI
Eurisol (UK Mineral Wool Association)
European Phenolic Foam Association
Glass and Glazing Federation
Meteorological Office
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National Physical Laboratory
Office of the Deputy Prime Minister (British Board of Agrément)
Office of the Deputy Prime Minister (Building Regulations Division)
Office of the Deputy Prime Minister [Represented by the Building Research Establishment (BRE)]
Polyethylene Foam Insulation Association
Thermal Insulation Contractors' Association
Thermal Insulation Manufacturers' and Suppliers' Association (TIMSA)

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Foreword

This Published Document has been prepared by Subcommittee B/540/1. It supersedes PD 6621:1998, which is withdrawn.

This document explains the background to and application of new European Standards for thermal insulation materials and other standards which have been developed by the following European Technical Committees and organizations:

- CEN/TC 88, Thermal insulation products for buildings and industrial applications;
- CEN/TC 89, Thermal performance of buildings and building components;
- CEN/TC 128, Sandwich panels incorporating insulation;
- European Organization for Technical Approvals (EOTA), systems for mechanically fastened flexible roof waterproofing systems and external thermal insulation composite systems with rendering.

The UK has participated fully in the work of the Technical Committees, their working groups and EOTA.

To monitor progress of documents under preparation referred to in this Published Document visit www.cpd-tracker.com or www.safety.odpm.gov.uk/bregs/cpd/index.htm.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 17 and a back cover.

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1 Scope

This Published Document gives guidance on the content and application of new European Standards for thermal insulation materials.

2 Background

2.1 Construction Products Directive (CPD)

In common with most other construction products, thermal insulation materials are subject to the Construction Products Directive (CPD) 89/106/EEC [1]. The CPD was adopted into United Kingdom legislation by The Construction Products Regulations 1991, Statutory Instrument 1991 No. 1620 [2], [3] as amended by The Construction Products (Amendment) Regulations 1994 [4]. A manufacturer may apply CE marking to a product if, used correctly, it allows the construction works to satisfy the essential requirements of the CPD [1]. CE marking is achieved by compliance with a harmonized European Standard, developed by the European Committee for Standardization (CEN), or a European Technical Approval [5] developed by members of the European Organization for Technical Approvals (EOTA).

In England and Wales, and in Scotland enforcement of the provisions of the CPD and the correct application of the CE mark is the responsibility of the Trading Standards authorities. In Northern Ireland it is the responsibility of local Environmental Health Officers.

NOTE For a summary and overview of the CPD reference should be made to *CE marking under the Construction Products Directive*, ODPM, October 2001 [6]. This document is available on the Office of the Deputy Prime Minister (ODPM) website which gives other comprehensive information on the CPD including links to other useful web sites.

2.2 Benefit for consumers

For manufacturers and consumers the most obvious benefit of the CPD is that it requires Member States to remove technical and regulatory barriers for products that conform to the Directive and thus eases cross border trade.

To achieve this, it introduces for the first time common rules for the declaration of the thermal properties of products throughout the European Community.

The new European Standards for thermal insulation materials contain new ways of declaring values for thermal properties that ensure that the thermal properties correspond to 25 years' of use and that they are representative of 90 % of production.

2.3 The timing of CE Marking

The availability of specifications and the transitional arrangements agreed by the European Commission and the Member States determine the earliest opportunity for CE marking insulation products and systems and the latest date (end of the co-existence period) for withdrawal of conflicting national British Standards (see Table 1).

NOTE Following the date of availability of the harmonized European Standards from CEN, the European Commission publishes its reference in the "C" series of the Official Journal of the European Communities (OJEC) [7]. The reference will be accompanied by the date at which manufacturers across Europe may begin CE marking.

Table 1 — CE Marking: Timing for insulation products and systems

Insulation product/system	Earliest date for CE marking	Latest date for withdrawal of conflicting British Standards
General building products (CEN)	March 2002 (definite)	March 2003 (definite)
External thermal insulation composite systems with rendering (EOTA)	August 2000 (definite)	May 2003 (definite)
Flat roof insulation (in mechanically fastened flexible roof waterproofing systems) (EOTA)	August 2000 (definite)	May 2003 (definite)
Internal partitions for non-loadbearing applications	March 2002 (definite)	March 2004 (definite)
In situ roofs and walls (CEN)	January 2004 (provisional)	January 2005 (provisional)
Sandwich panels (CEN)	August 2003 (provisional)	August 2004 (provisional)
Building equipment and industrial installations (CEN)	February 2004 (provisional)	February 2005 (provisional)
Non load-bearing permanent shuttering kits/systems based on hollow blocks or panels of insulating materials and sometimes concrete (EOTA)	EU letter of endorsement awaited	

3 New European Standards for thermal insulating products

3.1 A general overview

The European standardization work has been carried out along two complementary tracks; one for horizontal methods and calculation procedures which apply to all thermal insulation products and the second for product specific specifications and test methods for a number of areas described in Table 2. The standards impose rules for the expression and calculation of the properties. In some cases progress has been slow because of the difficulty in achieving agreement whilst in other areas harmonized European Standards have been published.

Table 2 — Standards areas within CEN/TC 88

Standards areas	Comment
Factory made product specifications for buildings	10 product specifications published August 2001
Test methods standards	25 standards supporting the building product standards; all but two published
Terminology standard (prEN ISO 9229)	Finalized as a draft EN ISO standard but not yet published
Standard for evaluation of conformity (BS EN 13172)	Published August 2001
In situ product specifications	17 documents, several at an early stage of development; two have passed the enquiry stage; publication expected December 2002
Building equipment and industrial installations product specifications	9 product specifications sent for enquiry June 2001
Test methods standards	6 draft European Standards supporting building equipment and industrial installations

The product specification standards in Table 2 have been the subject of a Mandate on thermal insulation products from the European Commission to CEN and as such are harmonized standards (or candidate harmonized standards) and hence are (or will be) a suitable reference for CE marking these products.

Work is also well advanced on standards for external thermal insulation composite systems (ETICS) (see Table 3). It should be noted that the European Commission has awarded the mandate for ETICS specifications to EOTA and, therefore, at the current time external insulation composite systems cannot be CE marked based on harmonized European Standards.

Table 3 — Non-mandated standards in CEN

Standards areas	Documents
External thermal insulation composite systems (ETICS)	2 product specifications at the enquiry stage
Test methods supporting ETICS	5 standards supporting the ETICS applications

3.2 Factory made product standards for buildings

A complete list of the product standards for buildings is shown in Table 4. The standards are supported by 25 test method standards, a terminology document prEN ISO 9229 and a further standard, BS EN 13172, dealing with the evaluation of the conformity of the products to the standards.

Table 4 — Standards for factory made thermal insulating products for buildings

Standard: Thermal insulation products for buildings	Document identifier
Factory made mineral wool (MW) products — Specification	BS EN 13162
Factory made products of expanded polystyrene (EPS) — Specification	BS EN 13163
Factory made products of extruded polystyrene foam (XPS) — Specification	BS EN 13164
Factory made rigid polyurethane foam (PUR) products — Specification	BS EN 13165
Factory made products of phenolic foam (PF) — Specification	BS EN 13166
Factory made cellular glass (CG) products — Specification	BS EN 13167
Factory made products of wood wool (WW) — Specification	BS EN 13168
Factory made products of expanded perlite (EPB) — Specification	BS EN 13169
Factory made products of expanded cork (ICB) — Specification	BS EN 13170
Factory made wood fibre (WF) products — Specification	BS EN 13171

3.3 Test methods supporting the factory made product standards for buildings

The test methods supporting the factory made product standards are given in Table 5. Additional guidance on the differences between these test methods and corresponding British Standards is given in Annex A.