

**Värmeisoleringsprodukter för byggnader –
Utvändiga system av puts på värmeisolering
av expanderad polystyren för ytterväggar –
Egenskapsredovisning**

**Thermal insulation products for buildings –
External thermal insulation composite systems
(ETICS) based on expanded polystyrene –
Specification**

ICS 91.100.60

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Europastandarden EN 13499:2003 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13499:2003.

Standarden har tagits fram inom CEN/TC 88, Thermal insulating materials and products.

Standarden gäller system av puts på utvändigt värmeisolering av expanderad polystyren för ytterväggar (External Thermal Composite Systems, ETICS). Standarden avser system som levereras till byggplatsen som ett "kit", det vill säga från en leverantör. I standarden skiljer man på limmade och mekaniskt infästa system. Även kombinationen behandlas.

The European Standard EN 13499:2003 has the status of a Swedish Standard. This document contains the official English version of EN 13499:2003.

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English version

Thermal insulation products for buildings - External thermal insulation composite systems (ETICS) based on expanded polystyrene - Specification

Produits isolants thermiques pour bâtiments - Systèmes composites d'isolation thermique par l'extérieur à base de polystyrène expansé (ETICS) - Spécification

Wärmedämmstoffe für Gebäude - Außenseitige Wärmedämm-Verbundsysteme (WDVS) aus expandiertem Polystyrol - Spezifikation

This European Standard was approved by CEN on 10 July 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document EN 13499:2003 has been prepared by Technical Committee CEN/TC 88 "Thermal insulating materials and products", the secretariat of which is held by DIN.

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 February 2004, and conflicting national standards shall be withdrawn at the latest by February 2004.

This European Standard contains two annexes:

Annex A (normative) Factory production control

Annex B (informative) Additional information for customers and designers

This European Standard is one of a series of standards for insulation products used in buildings, but can be used in other areas where appropriate.

This document includes a Bibliography.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

EN 13499:2003 (E)

1 Scope

This European Standard specifies the requirements for factory made products for external thermal insulation composite systems (ETICS) based on expanded polystyrene, delivered as a kit, and used as thermal insulation for buildings.

The standard describes product characteristics and includes procedures for testing, marking and labelling.

ETICS are applied to external surfaces of new or existing walls and/or soffits to improve the thermal insulation. ETICS include special fittings (base profiles, corner profiles, etc.) to connect them to adjacent building structures (apertures, corners, parapets, etc.). ETICS give protection against weathering and improve the appearance of the buildings. They do not contribute to the stability of the wall and/or soffits on which they are installed.

The standard covers systems where the thermal insulation material is required for the load transfer to the substrate.

This standard covers systems with a declared thermal resistance equal to or greater than 1 m²·K/W.

The requirements from national regulations concerning the mechanical resistance and stability of ETICS should be taken into account.

This standard does not cover the strength between the ETICS and the building surface to which it shall be fixed, i. e. the substrate.

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 (including amendments).

EN 1062-3, *Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 3: Determination and classification of liquid-water transmission rate (permeability)*.

EN 1062-11, *Paints and varnishes – Coating materials and coating systems for exterior masonry and concrete – Part 11: Methods of conditioning before testing*.

EN 12085, *Thermal insulating products for building applications - Determination of linear dimensions of test specimens*.

EN 13163, *Thermal insulation products for buildings – Factory made products of expanded polystyrene (EPS) – Specification*.

EN 13172, *Thermal insulating products – Evaluation of conformity*.

EN 13494, *Thermal insulation products for building applications – Determination of the tensile-bond strength of the adhesive and of the base coat to the thermal insulation material*.

EN 13495, *Thermal insulation products for building applications – Determination of the pull off resistance of external thermal insulation composite systems (ETICS) (foam block test)*.

EN 13496, *Thermal insulation products for building applications – Determination of the mechanical properties of glass fibre meshes*.

EN 13497, *Thermal insulation products for building applications – Determination of the resistance to impact of external thermal insulation composite systems (ETICS)*.

EN 13498, *Thermal insulation products for building applications – Determination of the resistance to penetration of external thermal insulation composite systems (ETICS)*.

EN 13501-1, *Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire test*.

prEN 13820, *Thermal insulating materials for building applications – Determination of organic content*.

EN 13823, *Reaction to fire tests for building products – Building products excluding floorings exposed to the thermal attack by a single burning item*.

EN ISO 1182, *Reaction to fire tests for building products – Non-combustibility test (ISO 1182:2002)*.

EN ISO 1716, *Reaction to fire tests for building products – Determination of the heat of combustion (ISO 1716:2002)*.

prEN ISO 4628-2, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering (ISO/FDIS 4628-2:2003)*

prEN ISO 4628-4, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 4: Assessment of degree of cracking (ISO/FDIS 4628-4:2003)*

prEN ISO 4628-5, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 5: Assessment of degree of flaking (ISO/FDIS 4628-5:2003)*

EN ISO 6946, *Building components and building elements – Thermal resistance and thermal transmittance- Calculation method (ISO 6946:1996)*.

EN ISO 7783-2, *Paints and varnishes – Coating materials and coating systems for exterior masonry and concrete – Part 2: Determination and classification of water-vapour transmission rate (permeability) (ISO 7783-2:1999)*.

prEN ISO 9229, *Thermal insulation – Definitions of terms (ISO/DIS 9229:1997)*.

EN ISO 10456, *Building materials and products - Procedures for determining declared and design thermal values (ISO 10456:1999)*.

EN ISO 11925-2, *Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 2: Single-flame source test (ISO 11925-2:2002)*.

ISO 1887, *Textile glass – Determination of combustible-matter content*.

3 Terms, definitions, symbols, units and abbreviated terms

3.1 Terms and definitions

For the purposes of this European Standard the terms and definitions given in prEN ISO 9229 apply, together with the following.

3.1.1

adhesive for ETICS

system specific material for bonding the thermal insulation material to the substrate

3.1.2

base coat for ETICS

system specific layer applied directly on to the thermal insulation material. It contains the reinforcement. The base coat provides most of the mechanical properties of an ETICS

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3.1.3

external thermal insulation composite system (ETICS)

on site applied system of factory made products, delivered as a complete system from the system manufacturer and comprising, as a minimum, the following components specifically chosen by the manufacturer of the system for the system and substrate:

- a system specific adhesive and system specific mechanical fixing devices;
- a system specific thermal insulation material;
- one or more layers of a system specific base coat where at least one layer contains a reinforcement;
- a system specific reinforcement;
- a system specific finishing material which can include a decorative coat.

All components of an ETICS are designed specifically for the system and the substrate by the manufacturer of the system.

3.1.4

finishing material for ETICS

system specific mineral, organic and/or inorganic materials forming the final layer of an ETICS. The finishing material combined with the base coat provides protection against the weather. It also gives texture and colour to the system

3.1.5

glass fibre meshes for ETICS

system specific textile fabrics consisting of continuous glass filament yarn in both the warp and the weft directions treated with alkali resistant finish

3.1.6

mechanical fixing devices for ETICS

system specific devices for securing thermal insulation systems to the substrate, for example rails or anchors

3.1.7

reinforcement for ETICS

system specific materials embedded in the base coat to improve its mechanical strength. Reinforcements for ETICS are usually glass fibre or metal meshes

3.1.8

soffit

exposed horizontal undersurface of a part of a building

3.1.9

substrate

surface of a new or existing wall or soffit. It can be faced with mineral or organic renders, or paint coatings

NOTE Substrates for reaction to fire test see EN 13238