

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

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13500:2004 sisaldab Euroopa standardi EN 13500:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13500:2004 consists of the English text of the European standard EN 13500:2003.</p> <p>This document is endorsed on 23.11.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala:</p> <p>This European Standard specifies the requirements for factory made products for external thermal insulation composite systems (ETICS) based on mineral wool, 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. This standard covers materials with a declared thermal resistance equal to or greater than 1 m².K/W.</p>	<p>Scope:</p> <p>This European Standard specifies the requirements for factory made products for external thermal insulation composite systems (ETICS) based on mineral wool, 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. This standard covers materials with a declared thermal resistance equal to or greater than 1 m².K/W.</p>
---	---

ICS 91.100.60

Võtmesõnad: buildings, external thermal insulation, mineral wood, specification, thermal insulation products

ICS 91.100.60

English version

**Thermal insulation products for buildings - External thermal
insulation composite systems (ETICS) based on mineral wool -
Specification**

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

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

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

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms, definitions, symbols, units and abbreviated terms	5
3.1 Terms and definitions.....	5
3.2 Symbols, units and abbreviated terms.....	7
4 Requirements	7
4.1 General.....	7
4.2 Thermal resistance	7
4.3 Mechanical resistance and stability of the system	8
4.3.1 Bond strength of the base coat to the MW board.....	8
4.3.2 Bond strength of the adhesive to the MW board for ETICS fixed by an adhesive.....	8
4.3.3 Pull-off resistance of the ETICS fixed by mechanical fixing	8
4.4 Reaction to fire.....	9
4.5 MW boards.....	9
4.6 Tensile strength of the reinforcement	9
4.7 Liquid water permeability of the system surface	10
4.8 Resistance to impact	10
4.9 Resistance to penetration	10
4.10 Water vapour permeability.....	10
4.11 Durability and adhesion of the finishing material on the base coat.....	11
5 Test methods.....	11
5.1 Sampling	11
5.2 Conditioning.....	11
5.2.1 Conditioning of the test specimen for the determination of the tensile bond strength of the adhesive to the thermal insulation material.....	11
5.2.2 Conditioning of the test specimen in accordance with EN 1062-11 for the determination of the tensile bond strength of the base coat to the thermal insulation material, liquid water permeability of the system surface, resistance to impact, resistance to penetration, water vapour permeability, durability and adhesion of the finishing material on the base coat.....	11
5.3 Testing	12
6 Designation code	13
7 Evaluation of conformity.....	13
8 Marking and labelling	13
8.1 The entire and specific information of all components of the kit has to be given on an accompanying document that contains:.....	13
8.2 Components conforming to this standard shall be clearly marked, either on the product or on the label with the following information:.....	13
8.3 Additional information:	14
8.3.1 Reinforcement	14
8.3.2 Adhesive:.....	14
8.3.3 Base Coat:	14
8.3.4 Finishing coat.....	14
8.3.5 MW-Boards	14
8.3.6 Rails.....	14
8.3.7 Anchors.....	14
Annex A (normative) Factory production control.....	15
Annex B (informative) Additional information for customers and designers	17
B.1 Resistance of the system surface to cracking.....	17
Bibliography	18

Foreword

This document EN 13500:2003 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.

1 Scope

This European Standard specifies the requirements for factory made products for external thermal insulation composite systems (ETICS) based on mineral wool, 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 13162, *Thermal insulation products for buildings – Factory made mineral wool (MW) products – 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 tests.*

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