

Ehituslikud ja töönduslikud soojusisolatsioonitooted. In situ paisutatud vermikuliidist (EV) toodetest moodustatud soojusisolatsioon. Osa 1: Tihendatud ja puistetoodete spetsifikatsioon enne paigaldamist

Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from exfoliated vermiculate (EV) products - Part 1: Specification for bonded and loose-fill products before installation

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15600-1:2010 sisaldab Euroopa standardi EN 15600-1:2010 ingliskeelset teksti.

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English Version

Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from exfoliated vermiculite (EV) products - Part 1: Specification for bonded and loose-fill products before installation

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Isolation thermique formée en place à base de granulats légers de vermiculite exfoliée (EV) - Partie 1: Spécification de produits liés et en vrac avant mise en oeuvre

Wärmedämmstoffe für die technische Gebäudeausrüstung und für betriebstechnische Anlagen in der Industrie - An der Verwendungsstelle hergestellte Wärmedämmung mit Produkten aus expandiertem Vermiculit (EV) - Teil 1: Spezifikation für gebundene und Schüttprodukte vor dem Einbau

This European Standard was approved by CEN on 6 May 2010.

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Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and Definitions, Symbols and Abbreviations	6
3.1 Terms and Definitions	6
3.2 Symbols and Abbreviations	7
3.2.1 Symbols used in this standard.....	7
3.2.2 Abbreviations used in this standard.....	7
4 Requirements	7
4.1 General.....	7
4.2 For all applications	7
4.2.1 Thermal resistance and thermal conductivity	7
4.2.2 Loose bulk density	8
4.2.3 Particle size	8
4.2.4 Reaction to fire.....	8
4.2.5 Durability characteristics.....	9
4.3 For specific applications.....	9
4.3.1 General.....	9
4.3.2 Maximum service temperature	9
4.3.3 Minimum service temperature	9
4.3.4 Crushing resistance	9
4.3.5 Water vapour permeability.....	10
4.3.6 Release of dangerous substances.....	10
4.3.7 Continuous glowing combustion.....	10
5 Test methods.....	10
5.1 Sampling	10
5.2 Conditioning.....	10
5.3 Testing	10
5.3.1 General.....	10
5.3.2 Thermal conductivity.....	11
6 Designation Code	11
7 Evaluation of conformity.....	12
8 Marking and labelling	12
Annex A (normative) Factory production control.....	14
Annex B (normative) Preparation of the test specimens to measure thermal conductivity	15
Annex C (normative) Special conditions to be used for the determination of organic content	16
C.1 Principle.....	16
C.2 Apparatus	16
C.3 Procedure	16
C.4 Calculation and expression of results.....	16
C.5 Test report	16
Annex D (normative) Determination of maximum service temperature	17
D.1 Principle.....	17
D.2 Apparatus	17
D.3 Procedure	17
D.4 Test report	18

Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU	
Construction Products Directive	19
ZA.1 Scope and relevant characteristics	19
ZA.2 Procedures for attestation of conformity of loose-fill exfoliated vermiculite products	21
ZA.2.1 Systems of attestation of conformity	21
ZA.2.2 EC declaration of conformity	22
ZA.3 CE Marking and labelling	23
Bibliography	25

Foreword

This document (EN 15600-1:2010) 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 January 2011, and conflicting national standards shall be withdrawn at the latest by January 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard consists of two parts which form a package. The first part, which is the harmonised part satisfying the mandate, the CPD and is the basis for the CE marking, covers the products, which are placed on the market. The second part, which is the non-harmonised part, covers the specification for the installed products.

This document contains five Annexes:

Annex A (normative) - Factory production control

Annex B (normative) - Preparation of test specimens to measure thermal conductivity

Annex C (normative) - Special conditions to be used for the determination of organic content

Annex D (normative) - Determination of maximum service temperature

Annex ZA (informative) - Clauses of this European Standard addressing the provisions of the EU Construction Products Directive

This European Standard is one of a series for polyurethane/polyisocyanurate, expanded perlite and exfoliated vermiculite in-situ formed insulation products used in building equipment and industrial installations, but this standard may be used in other areas where appropriate. EN 14317-1 covers the use of exfoliated vermiculite in buildings.

The reduction in energy used and emissions produced during the installed life of insulation products exceeds by far the energy used and emissions made during the production and disposal processes.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the requirements for exfoliated vermiculite products which are used for the thermal insulation of building equipment and industrial installations with an operating temperature in the range of approximately – 40 °C to + 1050 °C.

This European Standard specifies the requirements for the four types of exfoliated vermiculite products Vermiculite Aggregate (EVA), Coated Vermiculite (EVC) Hydrophobic Vermiculite (EVH) and Premixed Vermiculite (EVM), containing less than 1 % by mass organic material as determined by Annex C.

This European Standard is a specification for the insulation products before installation.

This European Standard describes the product characteristics and includes procedures for testing, evaluation of conformity, marking and labelling.

This European Standard does not specify the required level of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application. The levels required for a given application are to be found in regulations or non-conflicting standards.

This European Standard does not cover factory made insulation products of formed shapes and boards made with exfoliated vermiculite, and does not cover products intended to be used for the insulation of buildings.

The products covered by this standard are not intended to be used primarily for airborne sound insulation or sound absorption applications although they may improve the performance of the installations in these respects when installed for their primary insulation intended use.

2 Normative references

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

EN 932-1, *Tests for general properties of aggregates — Part 1: Methods for sampling*

EN 932-2, *Tests for general properties of aggregates — Part 2: Methods for reducing laboratory samples*

EN 933-1, *Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution — Sieving method.*

EN 993-14, *Methods of testing dense shaped refractory products — Part 14: Determination of thermal conductivity by the hot-wire (cross-array) method*

EN 1097-3, *Tests for mechanical and physical properties of aggregates — Part 3: Determination of loose bulk density and voids*

EN 12086, *Thermal insulating products for building application — Determination of water vapour transmission properties*

EN 12667, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*

EN 13055-1, *Lightweight aggregates — Part 1: Lightweight aggregates for concrete, mortar and grout*

EN 13055-2, *Lightweight aggregates — Part 2: Lightweight aggregates for bituminous mixtures and surface treatments and for unbound and bound applications*

EN 13172, *Thermal insulating products — Evaluation of conformity*

EN 13820, *Thermal insulating materials for building applications — Determination of organic content*

EN 14706, *Thermal insulating products for building equipment and industrial installations — Determination of maximum service temperature*

EN ISO 13787, *Thermal insulation products for building equipment and industrial installations — Determination of declared thermal conductivity (ISO 13787:2003)*

3 Terms and Definitions, Symbols and Abbreviations

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and Definitions

3.1.1

exfoliated vermiculite

insulation material which results from expanding or exfoliating a natural micaceous mineral by heating

[EN ISO 9229]

3.1.2

vermiculite aggregate

exfoliated vermiculite with no treatment or surface coating, used as a loose insulation in cavities

3.1.3

coated vermiculite

exfoliated vermiculite which has a coating

3.1.4

hydrophobic vermiculite

exfoliated vermiculite which is treated to give specific hydrophobic properties and used where moisture or water repellency is required

3.1.5

premixed vermiculite

exfoliated vermiculite premixed with binders to form bonded materials in end use applications

3.1.6

level

given value which is the upper or lower limit of requirement, where the level is given by the declared value of the characteristic concerned

3.1.7

class

combination of two levels of the same property between which the performance shall fall, where the level is given by the declared value of the characteristic concerned