

SVENSK STANDARD

SS-EN 16025-1:2013



Fastställt/Approved: 2013-05-15
Publicerad/Published: 2013-05-16
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 91.100.60

Värme- och/eller ljudisoleringsprodukter i bygganläggning – EPS-inblandad puts – Del 1: Krav på EPS-inblandat bruk från fabrik

Thermal and/or sound insulating products in building construction – Bound EPS ballastings – Part 1: Requirements for factory premixed EPS dry plaster

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-90096>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 16025-1:2013 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 16025-1:2013.

The European Standard EN 16025-1:2013 has the status of a Swedish Standard. This document contains the official version of EN 16025-1:2013.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Material och konstruktioner, SIS/TK 189/AG 1.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 16025-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2013

ICS 91.100.60

English Version

Thermal and/or sound insulating products in building
construction - Bound EPS ballastings - Part 1: Requirements for
factory premixed EPS dry plaster

Produits isolants thermiques et/ou acoustiques utilisés
dans la construction des bâtiments - Empierrements en
PSE lié - Partie 1: exigences pour un pré-mélange en usine
plâtre sec PSE

Wärmedämmstoffe für den Wärme- und/oder Schallschutz
im Hochbau - Gebundene EPS-Schüttungen - Teil 1:
Anforderungen an den werkmäßig vorgemischten EPS-
Trockenmörtel

This European Standard was approved by CEN on 23 February 2013.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions, symbols and abbreviated terms	6
3.1 Terms and definitions	6
3.2 Symbols and abbreviated terms	7
3.2.1 Symbols	7
3.2.2 Abbreviated terms	7
4 Requirements	7
4.1 General	7
4.2 For all applications	8
4.2.1 Factory premixed EPS dry mortar	8
4.2.2 Fresh mortar	9
4.2.3 Bound EPS	9
4.3 For specific applications	10
4.3.1 General	10
4.3.2 Compressive stress	10
4.3.3 Compressibility	12
4.3.4 Creep	12
4.3.5 Water vapour diffusion resistance	12
4.3.6 Water absorption by short-term partial immersion	12
4.3.7 Dynamic stiffness	13
4.3.8 Reaction to fire of products in standardised assemblies simulating end-use applications	13
4.3.9 Continuous glowing combustion	13
4.3.10 Dangerous substances	13
5 Test methods	14
5.1 Sampling and preparation of test specimens	14
5.1.1 Factory premixed EPS dry mortar	14
5.1.2 Bound EPS	14
5.2 Preparation of test specimen	14
5.3 Test results	14
6 Designation code	16
7 Evaluation of conformity	16
7.1 General	16
7.2 Initial type testing	17
7.3 Factory production control	17
8 Marking and labelling and technical information	17
8.1 Marking and labelling	17
8.2 Technical information	17
Annex A (normative) Determination of the declared thermal conductivity	19
A.1 General	19
A.2 Input data	19
A.3 Declared value of thermal conductivity	19
Annex B (normative) Initial type testing (ITT) and factory production control (FPC)	21
B.1 Testing frequencies	21
B.2 Indirect testing	23

Annex C (normative) Testing for reaction to fire of products	24
C.1 Scope	24
C.2 Product and installation parameters	24
C.3 Standardised Mounting and fixing	25
C.4 Fixing of the test specimen	26
C.5 Field of application	27
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU	
Construction Products Directive	29
ZA.1 Scope and relevant characteristics	29
ZA.2 Procedure for attestation of factory made bound EPS products	31
ZA.3 CE marking and labelling.....	34
Bibliography.....	36

Foreword

This document (EN 16025-1:2013) 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 November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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 document consists of two parts which form a package:

- EN 16025-1, *Thermal and/or sound insulating products in building construction — Bound EPS ballastings — Part 1: Requirements for factory premixed EPS dry plaster*
- EN 16025-2, *Thermal and/or sound insulating products in building construction — Bound EPS ballastings — Part 2: Processing of the factory premixed EPS dry plaster*

The first part is the harmonised part satisfying the mandate and the CPD and is the basis for the CE marking covering the products, which are placed on the market. The second part, which is the non-harmonised part, covers the specification for the installed products. Both parts need to be used for the application of the insulation product in the end-use applications covered by the standard.

This document is one of a series for mineral wool, expanded clay, expanded perlite, exfoliated vermiculite, polyurethane/polyisocyanurate, cellulose, bound EPS and expanded polystyrene in-situ formed insulation products used in buildings, but this document may be used in other areas where appropriate.

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 organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the requirements for in-situ formed bound EPS products (BEPS) for the thermal and/or sound insulation of buildings when applied to walls, ceilings, roofs and floors.

This European Standard covers products which are manufactured as premixed EPS dry plaster/mortar in a factory or mobile production unit.

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

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

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

Products with a declared thermal conductivity at 10 °C greater than 0,18 W/(m · K) are not covered by this European Standard.

This European Standard does not cover factory made insulation products in the form of prefabricated shapes or boards made of bound EPS.

This European Standard also specifies performance requirements for airborne sound insulation and for acoustic absorption applications.

2 Normative references

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

EN 826, *Thermal insulating products for building applications — Determination of compression behaviour*

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

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

EN 1602, *Thermal insulating products for building applications — Determination of the apparent density*

EN 1606, *Thermal insulating products for building applications — Determination of compressive creep*

EN 1609:2013, *Thermal insulating products for building applications — Determination of short term water absorption by partial immersion*

EN 12086:2013, *Thermal insulating products for building applications — Determination of water vapour transmission properties*

EN 12350-6, *Testing fresh concrete — Part 6: Density*

EN 12431, *Thermal insulating products for building applications — Determination of thickness for floating floor insulating products*

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*

SS-EN 16025-1:2013 (E)

EN 12939, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Thick products of high and medium thermal resistance*

EN 13172:2012, *Thermal insulation products — Evaluation of conformity*

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

EN 13823:2010, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 29052-1, *Acoustics — Determination of dynamic stiffness — Part 1: Materials used under floating floors in dwellings*

EN ISO 9229:2007, *Thermal insulation — Vocabulary (ISO 9229:2007)*

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

3 Terms and definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 9229:2007 and the following apply.

3.1.1

fresh mortar

EPS dry mortar mixed with water on the construction site

3.1.2

bound EPS (BEPS)

installed and hardened fresh mortar for use as insulating material for thermal and/or impact noise insulation

3.1.3

class

combination of two levels of the same or different property between which the performance falls, where the levels are given by the declared value of the characteristic concerned

3.1.4

level

given value, which is the upper or lower limit of a requirement

Note 1 to entry: The level is given by the declared value of the characteristic concerned.

3.1.5

factory premixed EPS dry mortar

loose dry mixture of EPS aggregate and mineral binder for producing bound EPS

3.2 Symbols and abbreviated terms

3.2.1 Symbols

C	compressibility	mm
d_B	thickness of the specimen under a load of 2 kPa after removal of an additional load of 48 kPa	mm
d_L	thickness of the specimen under a load of 250 Pa	mm
d_N	nominal thickness of the product	mm
ε_{ct}	compressive creep	%
ε_t	total relative thickness reduction	%
$\lambda_{90/90}$	90 % fractile with a confidence level of 90 % for the thermal conductivity	W/(m · K)
λ_D	declared value of thermal conductivity	W/(m · K)
λ_U	design value of thermal conductivity	W/(m · K)
μ	water vapour diffusion resistance factor	1
s'	dynamic stiffness	MN/m ³
σ_2	compressive stress at 2 % deformation	kPa
σ_{10}	compressive stress at 10 % deformation	kPa
σ_c	compressive stress	kPa
W_p	water absorption by short-term partial immersion	kg/m ²
$CC(i_1/i_2/25)\sigma_c$	declared level for compressive creep	
CP	declared level for compressibility	
CS(2)	declared level for compressive stress at 2 % deformation	
CS(10)	declared level for compressive stress at 10 % deformation	
DLT	declared level for dimensional stability under load and temperature conditions	
DMD	bound EPS density	
FMD	apparent density of fresh mortar	
LD	bulk density of the EPS dry mortar	
MU	declared range of the water vapour resistance factor	
PS	particle size group	
SD	declared level for dynamic stiffness	

3.2.2 Abbreviated terms

BEPS	Bound EPS
EPS	Expanded PolyStyrene
ITT	Initial Type Test

4 Requirements

4.1 General

Product properties shall be assessed in accordance with Clause 5. To comply with this document, products shall meet the requirements of 4.2, and the requirements of 4.3 as appropriate.