



SLOVENSKI STANDARD
kSIST FprEN 14315-1:2012

01-oktober-2012

Toplotnoizolacijski proizvodi za stavbe - Proizvodi iz brizgane poliuretanske pene (PUR) in poliizocianuratne pene (PIR), oblikovani na mestu vgradnje - 1. del: Specifikacija penastega sistema pred vgradnjo

Thermal insulating products for buildings - In-situ formed sprayed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 1: Specification for the rigid foam spray system before installation

Wärmedämmstoffe für das Bauwesen - An der Verwendungsstelle hergestellte Wärmedämmung aus Polyurethan (PUR)- und Polyisocyanurat (PIR)-Spritzschaum - Teil 1: Spezifikation für das Schaumsystem vor dem Einbau

Produits isolants thermiques destinés aux applications du bâtiment — Produits en mousse rigide de polyuréthane (PUR) ou de polyisocyanurate (PIR) injectée in situ par projection — Partie 1: Spécifications relatives aux systèmes d'injection du polyuréthane ou du polyisocyanurate avant mise en oeuvre

Ta slovenski standard je istoveten z: FprEN 14315-1

ICS:

91.100.60	Materiali za toplotno in zvočno izolacijo	Thermal and sound insulating materials
-----------	---	--

kSIST FprEN 14315-1:2012	en,de
---------------------------------	--------------

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 14315-1

August 2012

ICS 91.100.60

English Version

**Thermal insulating products for buildings - In-situ formed
sprayed rigid polyurethane (PUR) and polyisocyanurate (PIR)
foam products - Part 1: Specification for the rigid foam spray
system before installation**

Produits isolants thermiques destinés aux applications du bâtiment - Produits en mousse rigide de polyuréthane (PUR) ou de polyisocyanurate (PIR) injectée in situ par projection - Partie 1: Spécifications relatives aux systèmes d'injection du polyuréthane ou du polyisocyanurate avant mise en oeuvre

Wärmedämmstoffe für das Bauwesen - An der Verwendungsstelle hergestellte Wärmedämmung aus Polyurethan (PUR)- und Polyisocyanurat (PIR)-Spritzschaum - Teil 1: Spezifikation für das Schaumsystem vor dem Einbau

This draft European Standard is submitted to CEN members for third formal vote. It has been drawn up by the Technical Committee CEN/TC 88.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms, definitions, symbols and abbreviations	7
3.1 Terms and definitions	7
3.2 Symbols and abbreviations	9
3.2.1 Symbols used in this standard	9
3.2.2 Designation codes used in this standard	10
3.2.3 Abbreviations used in this standard:	10
4 Requirements	10
4.1 General	10
4.2 For all applications	11
4.2.1 Thickness measurements	11
4.2.2 Thermal resistance and thermal conductivity	11
4.2.3 Reaction to fire of the products	11
4.2.4 Reaction profile and free-rise density	12
4.2.5 Durability characteristics	12
4.2.6 Closed cell content	13
4.3 Specific applications	13
4.3.1 General	13
4.3.2 Water vapour transmission	13
4.3.3 Short-term water absorption by partial immersion	13
4.3.4 Compressive stress or compressive strength	13
4.3.5 Compressive creep	14
4.3.6 Sound absorption	14
4.3.7 Dangerous substances	14
4.3.8 Substrate adhesion strength perpendicular to faces	15
4.3.9 Reaction to fire of products in standardised assemblies simulating end-use applications	15
4.3.10 Continuous glowing combustion	15
4.3.11 Deformation under specified compressive load and temperature conditions	15
4.3.12 Dimensional stability under specified temperature and humidity conditions	16
5 Test methods	16
5.1 Sampling and test specimen preparation	16
5.2 Conditioning	16
5.3 Testing	17
5.3.1 General	17
5.3.2 Thermal resistance and thermal conductivity	17
6 Designation code	19
7 Evaluation of conformity	19
7.1 General	19
7.2 Initial type testing	20
7.3 Factory production control	20
8 Marking, labelling and technical information	20
8.1 Marking and labelling	20
8.2 Technical information	20
Annex A (normative) Determination of declared aged thermal conductivity and aged thermal resistance	22
A.1 Introduction	22
A.2 Input data	22

A.3	Declared values	22
A.3.1	General	22
A.3.2	Case where thermal resistance and thermal conductivity are declared	22
A.3.3	Case where thermal resistance alone is declared	22
Annex B	(normative) Initial type testing (ITT) and Factory production control (FPC)	24
Annex C	(normative) Determination of the aged values of thermal resistance and thermal conductivity	26
C.1	General	26
C.2	Sampling and test specimen preparation	26
C.3	Determination of the initial value of thermal conductivity	27
C.4	Determination of the accelerated aged value of thermal conductivity	28
C.4.1	Procedure	28
C.4.2	Measurement of the accelerated aged value of thermal conductivity	29
C.4.3	Addition of the safety increments (to be used with the accelerated ageing procedure only)	29
C.4.4	Acceleration test (optional and for diffusion open products only, in combination with the accelerated ageing procedure)	30
C.4.5	Determination of the accelerated aged value of thermal conductivity considering the acceleration factor (optional method and for diffusion open products only, in combination with the accelerated ageing procedure)	30
C.5	Fixed increment procedure	30
C.5.1	Conditions	30
C.5.2	Normality test	31
C.5.3	Calculation of the aged value of thermal conductivity	31
C.6	Declaration of the aged values of thermal resistance and aged thermal conductivity	32
C.6.1	General	32
C.6.2	Product grouping	32
C.6.3	Initial values of thermal conductivity used to calculate the $\lambda_{90/90}$ value	32
C.6.4	Aged values of thermal conductivity used to calculate the $\lambda_{90/90}$ value	33
Annex D	(normative) Preparation of the test sample	34
D.1	Principle	34
D.2	Procedure	34
Annex E	(normative) Determination of the reaction profile and free-rise density	35
E.1	Introduction	35
E.2	Principle	35
E.3	Apparatus	35
E.4	Procedure	35
E.4.1	Pre-treatment of polyol component	35
E.4.2	Making the foam	35
E.4.3	Presentation of reaction profile data	35
E.5	Free-rise density	36
E.5.1	General	36
E.5.2	Core free-rise density	36
E.5.3	Beaker free-rise density	36
E.5.4	Presentation of free-rise density result	36
Annex F	(normative) Determination of substrate adhesion strength perpendicular to faces	37
F.1	Principle	37
F.2	Apparatus	37
F.3	Sample preparation and conditioning	37
F.4	Preparation of test specimens	37
F.5	Testing procedure	37
F.6	Presentation of results	37
Annex G	(normative) Testing for reaction to fire products	38
G.1	Scope	38
G.2	Product and installation parameters	38
G.3	Mounting and fixing	39
G.3.1	Ignitability (EN ISO 11925-2)	39

FprEN 14315-1:2012 (E)

G.3.2	Single Burning Item [SBI] (EN 13823)	39
G.4	Field of application	41
Annex H (normative) Testing for reaction to fire products in standardised assemblies simulating end-use application(s)..... 43		
H.1	Scope	43
H.2	Product and installation parameters	43
H.3	Mounting and fixing.....	44
H.3.1	Ignitability (EN ISO 11925-2).....	44
H.3.2	Single Burning Item [SBI] (EN 13823).....	44
H.4	Field of application	48
Annex I (informative) Example for the determination of the declared aged values of thermal conductivity and thermal resistance for a product..... 50		
I.1	Case where both thermal conductivity and thermal resistance are declared	50
Annex J (normative) Instructions for compiling thermal resistance performance charts 52		
J.1	Introduction	52
J.2	General.....	52
J.3	Procedure for the manufacturer to create the performance charts	54
J.3.1	Performance charts for diffusion open faces	54
J.3.2	Performance chart for one diffusion open face and one diffusion tight face	55
J.3.3	Performance chart for diffusion tight faces	56
J.3.4	For products classified CCC4	57
J.3.5	For products classified CCC1	57
J.3.6	For products classified CCC2 and CCC3	57
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive..... 58		
Bibliography		65

Foreword

This document (FprEN 14315-1:2012) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

This document is currently submitted to the third Formal Vote.

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 89/106/EEC.

For relationship with EU Directive 89/106/EEC, 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 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 products in the end-use applications covered by EN 14315.

This European Standard is one of a series for mineral wool, expanded clay, expanded perlite, exfoliated vermiculite, polyurethane/polyisocyanurate, cellulose, bound expanded polystyrene and expanded polystyrene in-situ formed insulation products used in buildings, but this standard 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.

FprEN 14315-1:2012 (E)**1 Scope**

This European Standard specifies requirements for in-situ formed sprayed rigid polyurethane (PUR) and rigid polyisocyanurate (PIR) foam products when applied to walls, ceilings, roofs, suspended ceilings and floors.

This Part 1 of this European Standard is a specification for the rigid foam spray system before installation.

Part 1 of 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 levels of all properties to be achieved by a product to demonstrate fitness for purpose in a particular end-use application. The required levels are to be found in regulations or non-conflicting standards.

This European Standard does not cover factory made rigid polyurethane (PUR) or polyisocyanurate (PIR) foam insulation products or in-situ products intended to be used for the insulation of building equipment and industrial installations.

NOTE Foam products are either called flexible or rigid. The flexible products are used in upholstery and mattresses and are characterised by their ability to deflect, support and recover to their original thickness continually during their in-use phase. Those that are not flexible are termed rigid and do not possess these flexible characteristics. They are mostly used for thermal insulation purposes and vary widely in their compression strength values. Once the cell structure is crushed in a rigid foam, it does not recover its thickness fully. Some of these rigid foams are very low in density with very low compression strengths and are sometimes described “commercially” as “soft foams” or “semi-rigid” foams. This note has been included to clarify that all foams with such descriptions are covered by this standard’s use of the term rigid foam.

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 312, *Particleboards — Specifications*

EN 508-1, *Roofing products from metal sheet — Specification for self-supporting products of steel, aluminium or stainless steel sheet — Part 1: Steel*

EN 520, *Gypsum plasterboards — Definitions, requirements and test methods*

EN 823, *Thermal insulating products for building applications — Determination of thickness*

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

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

EN 1604, *Thermal insulating products for building applications — Determination of dimensional stability under specified temperature and humidity conditions*

EN 1605, *Thermal insulating products for building applications — Determination of deformation under specified compressive load and temperature conditions*

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

EN 1607:1996, *Thermal insulating products for building applications — Determination of tensile strength perpendicular to faces*