
**Toplotnoizolacijski proizvodi za stavbe - Proizvodi iz fenolne pene (PF) -
Specifikacija**

Thermal insulation products for buildings - Factory made phenolic foam (PF) products -
Specification

Wärmedämmstoffe für Gebäude - Werkmäßig hergestellte Produkte aus
Phenolharzschaum (PF) - Spezifikation

Produits isolants thermiques pour le bâtiment - Produits manufacturés en mousse
phénolique (PF) - Spécification

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91.100.60

Materiali za toplotno in
zvočno izolacijo

Thermal and sound insulating
materials

**SIST EN
13166:2013+A2:2016/oprA3:2018**

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English Version

Thermal insulation products for buildings - Factory made phenolic foam (PF) products - Specification

Produits isolants thermiques pour le bâtiment -
Produits manufacturés en mousse phénolique (PF) -
Spécification

Wärmedämmstoffe für Gebäude - Werkmäßig
hergestellte Produkte aus Phenolharzschaum (PF) -
Spezifikation

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 88.

This draft amendment A3, if approved, will modify the European Standard EN 13166:2012+A2:2016. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment 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.

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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.

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

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European foreword

This document (EN 13166:2012+A2:2016/prA3:2018) has been prepared by Technical Committee CEN/TC 88 “Thermal insulation materials and products”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

For relationship with EU Regulations, see informative Annex ZA which is an integral part of this document.

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EN 13166:2012+A2:2016/ prA3:2018 (E)

1 Modification to the European foreword

In the seventh paragraph, delete ", and supports essential requirements of EU Directive(s)."

Delete the ninth paragraph (list of changes) and replace the tenth and eleventh paragraph with the following:

"Amendment A3 modifies EN 13166:2012 together with its A1 and A2 amendments. This amendment introduces or corrects:

- a) Corrects a mistake in Table 2 - Classes for thickness tolerances, to provide alignment with the test standard EN 823, specifically rounding up of results to the nearest mm;
- b) Modifications to align with the CPR e.g. The term PTD has been replaced by TT;
- c) Modifications to 4.3.11 "Release of dangerous substances";
- d) Removal of 4.3.13 relating to "Continuous Glowing (smouldering) Combustion";
- e) Modifications to Annex ZA."

Delete the twelfth paragraph (list of changes).

In the fifteenth paragraph, add the following standard to the end of the list of standards:

"EN 16069, *Thermal insulation products for buildings — Factory made products of polyethylene foam (PEF) — Specification*".

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2 Modification to the Scope [SIST EN 13166:2013+A2:2016/oprA3:2018](https://standards.itech.ai/catalog/standards/sist/72de8186-bdb9-4f62-8841-7a1fef9df5d/sist-en-13166-2013a2-2016-opra3-2018)

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Replace the first sentence with: [7a1fef9df5d/sist-en-13166-2013a2-2016-opra3-2018](https://standards.itech.ai/catalog/standards/sist/72de8186-bdb9-4f62-8841-7a1fef9df5d/sist-en-13166-2013a2-2016-opra3-2018)

"This European Standard specifies the characteristics for factory made phenolic foam products, with or without facings or coatings, which are used for the thermal insulation of buildings. The products are manufactured in the form of boards and laminates."

Replace the third paragraph with:

"This standard describes product characteristics and includes procedures for testing, assessment and verification of constancy of performance (AVCP), marking and labelling."

Replace the fifth paragraph with:

"Products with a measured thermal resistance lower than 0,40 m²·K/W or a measured thermal conductivity greater than 0,050 W/(m·K) at 10 °C are not covered by this standard."

Replace the sixth paragraph with:

"This standard does not cover in-situ thermal insulation products or products intended to be used for the thermal insulation of building equipment and industrial installations (covered by EN 14314 [3])."

3 Modification to Clause 2, "Normative references"

Replace the dated reference to "EN 13172:2012" with an undated reference "EN 13172".

Add the following references:

"EN 16516, *Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air*"

and

"EN ISO 52016-1, *Energy performance of buildings – Energy needs for heating and cooling, internal temperatures and sensible and latent heat loads – Part 1: Calculation procedures (ISO 52016-1)*".

4 Modification to Clause 3, "Terms, definitions, symbols, units and abbreviated terms"

Delete the term and definition for "3.1.6 level" and "3.1.7 class" and modify the numbers of the remaining terms accordingly.

Replace the term "3.1.8 composite thermal insulation product" with the following:

"3.1.6

composite thermal insulation product

product which can be faced or coated; made from two or more layers bonded together by chemical or physical adhesion and consisting of at least one factory made thermal insulation material layer

Note 1 to entry: The specification of composite insulation products consisting of two or more layers of insulation, both covered by an EN insulation product standard, is under consideration by CEN TC88 (see document prEN 16491).".

Delete the following abbreviated terms:

PTD is **P**roduct **T**ype **D**etermination (previously named ITT for Initial Type Test)

VCP is **V**erification of **C**onstancy of **P**erformance (previously named evaluation of conformity)

Add the following abbreviated term:

"

TT is **T**ype **T**esting
<https://standards.iteh.ai/catalog/standards/sist/72de8186-bdb9-4f62-8841-7a1ffe9df5d/sist-en-13166-2013a2-2016-opra3-2018>

".

5 Modification to Clause 4, "Requirements"

In the title of the clause, replace the term "Requirements" with "Characteristics".

6 Modification to 4.2.1, "Thermal resistance and thermal conductivity"

Replace the second paragraph with the following:

"The thermal resistance and thermal conductivity shall be determined in accordance with Annex A and Annex C and declared according to the following:"

7 Modification to 4.2.3, "Thickness"

Replace the Table 2 with the following:

"Table 2 — Classes for thickness tolerances

Dimensions in millimetres

Nominal thickness	Tolerances	
	T1	T2
< 50	± 2,0	± 2.0
50 to 100	-2,0 +3,0	± 2.0
> 100	-2,0 +5,0	± 2.0

".

8 Modification to 4.3.5, "Compressive creep"

Add the following number and title to the table after the NOTE and renumber the remaining tables in the document accordingly:

"Table 7 — Testing periods for compressive creep"

9 Modification to 4.3.7.1, "Short term water absorption by partial immersion"

Replace the current title of the clause with "Short term water absorption by partial immersion".

10 Modification to 4.3.7.2, "Long term water absorption by partial immersion"

Replace the first paragraph with the following:

"Long term water absorption by partial immersion, W_{lp} , shall be determined in accordance with EN 12087 Method 1. No test result shall exceed the value given in Table 8 for the declared level."

11 Modification to 4.3.11, "Release of dangerous substances"

Replace the text in the clause with the following:

"If the release of dangerous substances¹ into indoor air is tested, this shall be done according to EN 16516.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA accessed through: <http://ec.europa.eu/growth/tools-databases/cp-ds>".

12 Modification to 4.3.12, "Reaction to fire of the product in standardized assemblies simulating end-use applications"

Replace the third paragraph with the following:

"The number of the selected test configuration of assembly (Table 5 of EN 15715:2009) which is used in the test shall be quoted with the Euroclass."

¹ See for reference the LCI list of the European Commission "Agreed EU-LCI values" (http://ec.europa.eu/growth/sectors/construction/eu-lci/values_en).

13 Modification to 4.3.13, "Continuous glowing combustion"

Delete the whole clause.

14 Modification to 5.2, "Conditioning"

Replace the first sentence with the following:

"No special conditioning of the test specimens is needed unless otherwise specified in the test standard except for the determination of initial thermal conductivity, compressive creep and apparent density. Testing."

15 Modification to 5.3.2, "Thermal resistance and thermal conductivity"

Replace Table 9 with the following:

"Table 9 — Test methods, specimens and conditions

Dimensions in millimetres

Clause		Test Method	Test specimen length and width ^a	Minimum number of measurements to get one test result	Specific conditions
No	Title				
4.2.1	Thermal resistance and thermal conductivity	EN 12667 or EN 12939	See EN 12667 or EN 12939 300 x 300 minimum	1	—
4.2.2	Length and width	EN 822	Full size	1	—
4.2.3	Thickness	EN 823	Full size	1	Method B.3
4.2.4	Squareness	EN 824	Full size	1	—
4.2.6	Flatness	EN 825	Full size	1	—
4.2.7	Reaction to fire of the product as placed on the market	See EN 13501-1 and EN 15715			See EN 15715
4.3.2	Dimensional stability under normal laboratory temperature and relative humidity conditions	EN 1603	Full size	3	—
	Dimensional stability under specified temperature and humidity conditions	EN 1604	200 × 200	3	—
4.3.3	Compressive strength	EN 826	50 × 50	5	≤ 50 mm thick
			100 × 100	5	> 50 mm thick

EN 13166:2012+A2:2016/ prA3:2018 (E)

Clause		Test Method	Test specimen length and width ^a	Minimum number of measurements to get one test result	Specific conditions
No	Title				
4.3.4	Tensile strength perpendicular to faces	EN 1607	50 × 50	3	–
4.3.5	Compressive creep	EN 1606	50 × 50	3	≤ 50 mm thick
			100 × 100	3	> 50 mm thick
4.3.6	Bending strength	EN 12089	See 6.1.2 in EN 12089:1997	3	Method B
4.3.7	Short term water absorption	EN 1609	200 × 200	3	Method A
	Long term water absorption	EN 12087	200 × 200	3	Method 1A
4.3.8	Water vapour transmission	EN 12086	See 6.1 in EN 12086:1997	3	–
4.3.9	Apparent density	EN 1602	200 × 200	3	–
4.3.10	Closed cell content	EN ISO 4590	100 × 30 × 30	3	Method 2
4.3.11	Release of dangerous substances	EN 16516	See EN 16516	See EN 16516	4.3.11

^a Full size product thickness except for 4.2.7 when the limits of the test methods are exceeded and 4.3.10.

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16 Modification to Clause 6, "Designation code"

Replace the first paragraph with the following:

"If a designation code is provided, it shall be given as follows (including the relevant characteristics from clause 4.3):".

17 Modification to Clause 7, "Assessment and Verification of the Constancy of Performance (AVCP)"

Replace the subclauses with the following:

"7.1 General"

In accordance with EN 13172, the compliance of the Factory made phenolic foam with the characteristics defined in 4.2, and those in 4.3 if declared, of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

- determination of the product type (Type testing)
- factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

If a manufacturer decides to group his products, it shall be done in accordance with EN 13172.

7.2 Type testing

All performances related to characteristics defined in 4.2 and those in 4.3 if declared, shall be determined when the manufacturer intends to declare the respective performances, unless the standard provides provision for declaring them without the need to carry out such tests e.g. by the use of previously existing data, CWFT and conventionally accepted performance. Type testing shall be performed in accordance with Annex B.

For the relevant characteristics, Type testing on products corresponding also to EN 14314 may be used for the purpose of Type testing and Declaration of Performance (DoP) according to this standard.

7.3 Factory Production Control (FPC)

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the essential characteristics.

The minimum frequencies of tests in the factory production control (FPC) shall be in accordance with Annex B. When indirect testing is used, the correlation to direct testing shall be established in accordance with EN 13172.

For the relevant characteristics, FPC on products corresponding also to EN 14314 may be used for the purpose of FPC and DoP according to this standard.

7.4 Initial inspection

The initial inspection of the factory and of the FPC shall be carried out in accordance with EN 13172.

7.5 Continuous surveillance

The continuous surveillance of FPC shall be carried out in accordance with EN 13172.".

18 Modification to Clause 8, "Marking and labelling"

In paragraph 1, delete the phrase "nominal width" from the eleventh item of the list and add it again as a new twelfth item.

Delete the Note 2 and the Example and renumber other notes accordingly.

19 Modification to A.1, "General"

Replace the first three sentences of the clause with the following:

"The declared values of thermal resistance and thermal conductivity shall be determined. The conformity of the product to its declared values should be demonstrated."

20 Modification to A.2, "Input data"

Replace the first sentence by the following:

"At least ten test results for thermal resistance and thermal conductivity shall be obtained from internal or external direct measurements in order to calculate the declared values."

21 Modification of Annex B, "Product type determination (PTD) and factory production control (FPC)"

Replace the current title with: "Type testing (TT) and factory production control (FPC)".

Replace Table B.1 with the following: