



**SLOVENSKI STANDARD**  
**SIST EN 13164:2013+A1:2015/oprA2:2018**  
**01-november-2018**

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**Toplotnoizolacijski proizvodi za stavbe - Proizvodi iz ekstrudiranega polistirena (XPS) - Specifikacija**

Thermal insulation products for buildings - Factory made extruded polystyrene foam (XPS) products - Specification

Wärmedämmstoffe für Gebäude - Werkmäßig hergestellte Produkte aus extrudiertem Polystyrolschaum (XPS) - Spezifikation

Produits isolants thermiques pour le bâtiment - Produits manufacturés en mousse de polystyrène extrudé (XPS) - Spécification

<https://standards.iteh.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99fa-ed2bbe09776b/sist-en-13164-2013a1-2015-opra2-2018>

**Ta slovenski standard je istoveten z: EN 13164:2012+A1:2015/prA2**

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**ICS:**

91.100.60	Materiali za toplotno in zvočno izolacijo	Thermal and sound insulating materials
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**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**DRAFT**  
**EN 13164:2012+A1:2015**  
**prA2**

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ICS 91.100.60

English Version

## Thermal insulation products for buildings - Factory made extruded polystyrene foam (XPS) products - Specification

Produits isolants thermiques pour le bâtiment -  
Produits manufacturés en mousse de polystyrène  
extrudé (XPS) - Spécification

Wärmedämmstoffe für Gebäude - Werkmäßig  
hergestellte Produkte aus extrudiertem  
Polystyrolschaum (XPS) - 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 A2, if approved, will modify the European Standard EN 13164:2012+A1:2015. 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 13164:2012+A1:2015/prA2:2018) 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 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.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 13164:2013+A1:2015/oprA2:2018](https://standards.iteh.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99fa-ed2bbe09776b/sist-en-13164-2013a1-2015-opra2-2018)

<https://standards.iteh.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99fa-ed2bbe09776b/sist-en-13164-2013a1-2015-opra2-2018>

**EN 13164:2012+A1:2015/prA2:2018 (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 A2 modifies EN 13164:2012 and its A1 amendment. This amendment introduces or corrects:

- a) Modified the clause "Release of Dangerous substance";
- b) Modified the definition for "class F" in the clause "reaction to fire";
- c) Delete 4.3.12 Continuous glowing combustion;
- d) Modifications to be in line with the CPR e.g. PTD replaced by TT;
- e) Modified the Annex ZA;
- f) Editorial modifications in different parts of the text and linked to the above modification."

*In the fourteenth 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*".

**iTeh STANDARD PREVIEW**

**2 Modifications to the Scope (standards.iteh.ai)**

*Replace the first sentence with:* [SIST EN 13164:2013+A1:2015/oprA2:2018](https://standards.iteh.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99fa-ed2bbe09776b/sist-en-13164-2013-a1-2015-oprA2-2018)

"This European Standard specifies the characteristics for factory made products of extruded polystyrene foam, with or without facings or coatings, which are used for thermal insulation of buildings."

*Replace the third paragraph with:*

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

**3 Modifications to Clause 2, "Normative references"**

*Add the following references:*

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

EN ISO 4590, *Rigid cellular plastics — Determination of the volume percentage of open cells and of closed cells (ISO 4590)*".

**4 Modifications to Clause 3, "Terms, definitions, symbols, units, 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.*

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  
 CWFT **C**lassification **w**ithout **f**urther **t**esting

".

## 5 Modification to Clause 4, "Requirements"

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

## 6 Modification to 4.1, "General"

Replace the text in the clause with the following:

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

For multi-layered products, additional characteristics are given in Annex D.

One test result for a product property is the average of the measured values on the number of test specimens given in Table 9.

NOTE Information on additional properties is given in Annex E."

## 7 Modification to 4.2.1, "Thermal resistance and thermal conductivity"

Please 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:".

## 8 Modification to 4.2.5.3, "Durability of thermal resistance and thermal conductivity against ageing / degradation"

Replace the current title of the clause with "Durability of thermal resistance and thermal conductivity against ageing / degradation".

## 9 Modification to 4.3.10, "Release of dangerous substances"

Replace the text in the clause with the following:

"If the release of dangerous substances<sup>1</sup> into indoor air is tested, this shall be done according to EN 16516.

NOTE 1 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>".

<sup>1</sup> 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](http://ec.europa.eu/growth/sectors/construction/eu-lci/values_en)).

## EN 13164:2012+A1:2015/prA2:2018 (E)

**10 Modification to 4.3.12, "Continuous glowing combustion"**

Delete the whole clause.

**11 Modification to 5.3.2, "Thermal resistance and thermal conductivity"**

Replace Table 9 with the following:

**"Table 9 — Test methods, test specimens and conditions**

Dimensions in millimetres

Clause		Test method	Test specimen Length and width <sup>a</sup>	Minimum number of measurements to get one test result	Specific conditions
No	Title				
4.2.1	Thermal resistance - Thermal conductivity	EN 12667 or EN 12939	See EN 12667 or EN 12939 and Annex C	1	See Annex C
4.2.2	Length and width	EN 822	Full size	1	—
4.2.2	Squareness on length and width	EN 824	Full size	1	—
4.2.2	Flatness	EN 825	Full size	1	—
4.2.3	Thickness	EN 823	Full size	1	Load: (250 ± 5) Pa
4.2.4	Reaction to fire of the product as placed on the market	See EN 13501-1 and EN 15715 <a href="https://standards.itech.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99m-ed2bbe09776b/sist-en-13164-2013a1-2015-opra2-2018">https://standards.itech.ai/catalog/standards/sist/7a56e69c-efb9-4ae3-99m-ed2bbe09776b/sist-en-13164-2013a1-2015-opra2-2018</a>			See Clause 5 of EN 15715:2009
4.3.2	Dimensional stability under specified conditions	EN 1604	200 x 200	2	Condition specimens for 45 days
4.3.3	Deformation under specified compressive load and temperature conditions	EN 1605	100 x 100	3	Condition specimens for 45 days
4.3.4	Compressive stress/strength	EN 826	100 x 100	5	Condition specimens for 45 days (Length and width of specimen shall be ≥ thickness of specimen)
			150 x 150	3	
4.3.5	Tensile strength perpendicular to faces	EN 1607	50 x 50	5	Condition specimens for 45 days



Clause		Test method	Test specimen Length and width <sup>a</sup>	Minimum number of measurements to get one test result	Specific conditions
No	Title				
4.3.6	Compressive creep	EN 1606	100 x 100	2	Test specimen selected from the area giving average compressive strength/ stress area of a board. Condition specimens for 45 days
			150 x 150	2	
4.3.7.1	Long term water absorption by immersion	EN 12087	200 x 200	2	Method 2A
4.3.7.2	Long term water absorption by diffusion	EN 12088	500 x 500	2	-
4.3.8	Freeze-thaw resistance	EN 12091	500 x 500	1	Set A
			100 x 100 or	5	Set B <sub>1</sub> and B <sub>2</sub>
			150 x 150	3	Set B <sub>1</sub> and B <sub>2</sub>
4.3.9	Water vapour transmission properties	EN 12086	See 6.1 in EN 12086:1997	3	Conditions, Set A
4.3.10	Release of dangerous substances	EN 16516	See EN 16516	See EN 16516	See EN 16516
4.3.11	Reaction to fire of the product in standardized assemblies simulating end use applications	See EN 13501-1 and EN 15715			See Clause 6 of EN 15715:2009
4.3.12	Shear strength	EN 12090	250 x 50 x thickness, (max 50 mm thick)	5	Single specimen – Condition specimen for 45 days
			200 x 100 x thickness, (max 50 mm thick)	3	Double specimen – Condition specimen for 45 days

<sup>a</sup> Full-size product thickness, except for 4.2.3.

## 12 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:"

**EN 13164:2012+A1:2015/prA2:2018 (E)****13 Modification to Clause 7, "Assessment and Verification of the Constancy of Performance (AVCP)"**

*Replace the subclauses with the following:*

**7.1 General**

The manufacturer or his authorized representative shall be responsible for the conformity of his product with the requirements of this European Standard. The Assessment and Verification of Constancy of Performance (AVCP) shall be carried out in accordance with EN 13172 and shall be based on Type Testing (TT), Factory Production Control (FPC) by the manufacturer, including product assessment and tests on samples taken at the factory.

The compliance of the product with the requirements of this standard and with the stated values (including classes) shall be demonstrated by:

- Type Testing (TT),
- Factory Production Control (FPC) by the manufacturer, including product assessment.

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

**7.2 Type Testing (TT)**

All characteristics defined in 4.2 and those in 4.3 if declared, shall be subject to Type Testing (TT) in accordance with Annex B.

For the relevant characteristics, TT on products corresponding also to EN 14307 and EN 14934 may be used for the purpose of TT 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 of this standard. 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 14307 and EN 14934 may be used for the purpose of FPC and Declaration of Performance (DoP) according to this standard.

**7.4 Initial inspection**

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

**7.5 Continuous surveillance**

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

**14 Modification to Clause 8, "Marking and labelling"**

*Delete the note and example.*

**15 Modifications to Annex B, "Product type determination (PTD) and Factory production control (FPC)"**

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

*Replace Table B.1 with the following:*

"Table B.1 — Minimum number of tests for TT and minimum product testing frequencies

Clause		TT <sup>b</sup>	FPC <sup>a,c</sup>		
		Minimum number of tests <sup>c,d</sup>	Minimum testing frequency		
No	Title		Direct testing	Indirect testing	
				Test method	Frequency
4.2.1	Thermal resistance – Thermal conductivity	A minimum of 10 tests are needed statistically with a minimum of 4 from the TT.	Initial value 1 per 24 h	Manufacturer's method	1 per 24 h
			Aged values: 1 per 2 years	–	–
4.2.2	Length and width	4	1 per 2 h	–	–
4.2.2	Squareness	4	1 per 4 h	–	–
4.2.2	Flatness	4	3 per 8 h	–	–
4.2.3	Thickness	4	1 per 2 h	–	–
4.2.4	Reaction to fire of the product as placed on the market	1	See Table B.2		
4.3.2	Dimensional stability at specified temperature	4	1 per 5 years	–	–
	Dimensional stability under specified conditions	4	1 per 5 years	–	–
4.3.3	Deformation under specified compressive load and temperature conditions	4	1 per 5 years	–	–
4.3.4	Compressive stress or strength	4	1 per 12 h	–	–
4.3.5	Tensile strength perpendicular to faces	4	1 per 5 years	–	–
4.3.6	Compressive creep	4	1 per 10 years	–	–
4.3.7.1	Long term water absorption by immersion	4	1 per 5 years	–	–
4.3.7.2	Long term water absorption by diffusion	4	1 per 5 years	–	–