DOP 05 - XPS - EURO FISI SHPK
Radivojce , VITI - KOSOVO
NUIS/VAT : 810196908
email : xps@eurofisi.com
www.eurofisi.com

DECLARATION OF PERFORMANCE
Based on EU Reg. 305/2011
Nr. 05 – DoP –14/04/2024

Kosovo, 14/04/2024

1. Unique identification code of the product-type:	**XPS - Extruded Polystyrene**
2.Type, batch, series number or any other element allowing identification of the construction product in accordance with Article 11(4) of the CPR:	**XPS 30 - 20 mm - 200 mm** **Factory made products of extruded polystyrene foam (XPS)**
3. Intended use or uses of the construction product, in accordance with the relevant harmonized technical specification, as intended by the manufacturer:	**Thermal insulation products for buildings**
4. Name, registered trade name or registered trade mark and address of the manufacturer in accordance with Article 11(5).	**EURO FISI SHPK** **St. Gjilani No 61, 61000** **Radivojce , VITI - KOSOVO** **email : xps@eurofisi.com** **www.eurofisi.com** **NUIS / VAT - 810196908**
5. Not applicabile	
6. System or systems for evaluating and verifying the constancy of performance of the construction product referred to in Annex V of the CPR:	**System AVCP 3 - ZUS - THE TECHNICAL AND TEST INSTITUTE FOR CONSTRUCTION PRAGUE - NB 1020**
7. In the case of a declaration of performance relating to a construction product that falls within the scope of a harmonized standard:	**The notified testing laboratory carried out the determination of the product-type based on type tests. EN 13164:2012+A1:2015**
8. Contacts pursuant to Article 9, paragraph. 5 EU Reg. 305/2011	**+38344917788**
9. Declared performance	See table “appendix A”
10. The performance of the product referred to in points 1 and 2 is in conformity with the performance declared in point 9.	

This declaration of performance is issued under the exclusive responsibility of the manufacturer referred to in point 4.

Signed for and on behalf of the manufacturer

Name and function: Afrim Shallti - Director

Place and date of release: VITI - KOSOVO 14/04/2024

Signature

Shoqëri me përgjegjësi të kufizuara Sh.p.k. “EURO FISI” since 1995 Radivojcë-Viti

DOP 05 - XPS - EURO FISI SHPK
Radivojce , VITI - KOSOVO
NUIS/VAT : 810196908
email : xps@eurofisi.com
www.eurofisi.com

DoP 05 - APPENDIX A

Harmonized Standard :

EN 13164:2012+A1:2015

9. Declared performance

TECHNICAL CONSTRUCTION FILE

No. 1020-CPR-010-046083

TEST REPORT

No. 010-046082
No. 010-045942

DoP 05 - APPENDIX B

CE

No. 1020-CPR-010-046083

ZUS - TECHNICAL AND TEST INSTITUTE FOR CONSTRUCTION PRAGUE
Notified Body 1020

Production Unit :
EURO FISI Sh.p.k
St. Gjilani No 61, 61000 Fsh.Radivojce VITI, KOSOVA

Email : xps@eurofisi.com

Phone : +38344917788

Thermal insulation products for buildings

RtF:E
λ_D: 0,034 W/mK

EN 13164:2012+A1:2015

Other Standards:

Length EN 822
Width EN 822
Thickness EN 823
Squareness EN 824
Flatness EN 825
Flexural strength EN 12089
Compressive stress at 10% deformation EN 826
Dimensional stability 70 °C EN 1604
Thermal resistance EN 12667
Tensile Strength EN 1607
Density EN 1602

XPS-EN 13164-DN-FTCD-DS-DLT-CS(10\Y)344.8 - TR- CC - WL(T)1.3
WD-MU - CLASS E. For other specifics see Test Report.

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Technical and Test Institute for Construction Prague, SOE
Akreditované zkušební laboratoře, Autorizovaná osoba, Notifikovaná osoba, Oznámený subjekt, Subjekt pro technické posuzování, Certifikační orgány, Inspekční orgán / Accredited Testing Laboratories, Authorized Body, Notified Body, Technical Assessment Body, Certification Bodies, Inspection Body • Prosecká 811/76a, Prosek, 190 00 Praha 9, Czech Republic

Notified Body 1020
Branch 0100 – Prague

REPORT

on the assessment of performance

according to the Regulation (EU) 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), Art. 1.4 of the Annex V (system 3)

No. 1020-CPR-010-046083

Trade name:
Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS)
type / variation: XPS 30

Manufacturer:
EURO FISI group LLC

INo:	810196908
Address:	Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo
Plant:	EURO FISI group LLC
Address:	Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo
Order:	Z010220097

Number of report pages including tittle-page: 8 Number of Annexes: -

The person taking responsibility for the content of this report:

Ing. Zdeněk Kočí
Head Assessor

The person taking responsibility for the correctness of this report:

Stamp of the Notified Body 1020

Praha, November 9, 2022

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p. Oznámený subjekt ZÚS 1020

Ing. Jozef Pôbiš
Manager of the Notified Body 1020

1. Specification of tested subject

Description and intended use of the product: Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS)

XPS 30, declared density 32 kg/m^3 ± 15 %, thikness 20-200 mm

Technical specification: EN 13164:2012+A1:2015 Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS) - Specification

Manufacturer: EURO FISI group LLC, Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo

Plant: EURO FISI group LLC, Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo

2. Sampling

Date of sampling: unknown

Place of sampling: warehouse of the manufacturer

Sampler: delivery company

Sampling method: not specified

Transport mode: not specified

Date of the taking over: 24.06.2022

Sample Registration number:

- VZ010220256 - XPS 30 (1250x600x20) mm
- VZ010220257 - XPS 100 (1250x600x50) mm
- VZ010220258 - XPS 100 (1250x600x100) mm
- VZ010220259 - XPS 100 (1250x600x200) mm

3. The assessment of performance on basis of testing and assessment

The assessment was carried out on basis of testing and assessment.

3.1 The assessment on basis of testing and assessment

3.1.1. Reaction to fire

Sample specification: XPS 30.

Assessment according to the test method: EN ISO 11925-2:2020 (ČSN EN ISO 11925-2:2020).

Assessment according to the assessment standard: EN 13501-1:2018 (ČSN EN 13501-1:2019).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 22.08.2022.

Another data concerning the test: see Test Report No. 010-045942 of 25.08.2022 and Classification Reports No. 080-024818 (PKP – 22 – 059) on reaction to fire of 26.08.2022.

Table No. 1: XPS 30

Product characteristic	Classification report	Test and classification method	Test result
Reaction to fire	080-024818	ČSN EN 13501-1 ČSN EN ISO 11925-2	class E

3.1.2. Thermal resistance and thermal conductivity coefficient

Sample specification: XPS 30.

Assessment according to the test method: EN 12667:2001 (ČSN EN 12667:2001).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 22.07.2022.

Another data concerning the test: see Test Report No. 010-046082 of 31.10.2022.

Table No. 2: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m^2·K/W]	[kg/m^3]	[kg/m^3]
VZ010220256/1	0.02010	0.03479	0.578	30.5	30.6
VZ010220256/2	0.02006	0.03491	0.575	30.6	30.7
VZ010220256/3	0.02005	0.03491	0.574	30.6	30.6
VZ010220256/4	0.02007	0.03490	0.575	30.6	30.7

Table No. 3: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m^2·K/W]	[kg/m^3]	[kg/m^3]
VZ010220258/1	0.09898	0.03404	2.908	32.1	32.1
VZ010220258/2	0.09904	0.03409	2.905	32.0	32.1

Table No. 4: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220259/1	0.19562	0.03596	5.440	33.0	33.1
VZ010220259/2	0.19586	0.03577	5.476	32.9	33.0
VZ010220259/3	0.19605	0.03582	5.473	33.0	33.0
VZ010220259/4	0.19601	0.03587	5.464	32.8	32.8

3.1.3. Thermal resistance and thermal conductivity coefficient – after ageing

Sample specification: XPS 30.

Assessment according to the test method: EN 12667:2001 (ČSN EN 12667:2001).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 21.10.2022.

Another data concerning the test: see Test Report No. 010-046082 of 31.10.2022.

Table No. 5: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220256/1	0.02042	0.03486	0.586	32.1	32.7
VZ010220256/2	0.02050	0.03488	0.588	33.4	33.5
VZ010220256/3	0.02034	0.03489	0.583	32.9	33.1
VZ010220256/4	0.02040	0.03486	0.585	33.1	33.2

Table No. 6: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220258/1	0.09910	0.03866	2.563	32.7	32.7
VZ010220258/2	0.09914	0.03866	2.564	32.7	32.8

Table No. 7: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220259/1	0.19561	0.04282	4.568	32.7	32.7
VZ010220259/2	0.19570	0.04244	4.611	32.1	32.1
VZ010220259/3	0.19595	0.04236	4.626	32.2	32.2
VZ010220259/4	0.19567	0.04229	4.627	32.2	32.2

3.1.4. Thickness

Sample specification: XPS 30.

Assessment according to the test method: EN 823:2013 (ČSN EN 823:2013).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 22.07.2022.

Another data concerning the test: see Test Report No. 010-046082 of 31.10.2022.

Table No. 8: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220256/1	20.1	20.2	20.0	20.0	**20**
VZ010220256/2	20.2	20.2	19.9	19.9	**20**
VZ010220256/3	19.8	19.9	20.2	20.3	**20**
VZ010220256/4	19.9	20.0	20.2	20.2	**20**

Table No. 9: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220258/1	99.3	99.6	99.4	98.6	**99**
VZ010220258/2	99.4	99.3	98.8	98.6	**99**

Table No. 10: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220259/1	195.3	195.8	195.5	195.9	**196**
VZ010220259/2	195.5	195.1	196.6	196.2	**196**
VZ010220259/3	196.2	196.2	195.9	195.9	**196**
VZ010220259/4	196.2	196.0	196.0	195.8	**196**

3.1.5 Long-term water absorption by immersion

Sample specification: XPS 30.

Assessment according to the test method: EN 12087:2013 (ČSN EN 12087:2013) and EN ISO 16535:2019 (ČSN ENISO 16535:2020).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 31.08.2022.

Another data concerning the test: see Test Report No. 010-046082 of 31.10.2022.

Table No. 11: XPS 30 – thickness 20 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.71	1.60	1.61
Arithmetic mean of W_{lt} [%]			**1.6**

Table No. 12: XPS 30 – thickness 50 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.15	1.15	1.14
Arithmetic mean of W_{lt} [%]			1,1

Table No. 13: XPS 30 – thickness 100 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.33	1.31	1.33
Arithmetic mean of W_{lt} [%]			1.3

Table No. 14: XPS 30 – thickness 200 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	0.93	0.99	0.93
Arithmetic mean of W_{lt} [%]			1.0

3.1.6 Compressive strength

Sample specification: XPS 30.

Assessment according to the test method: EN 826:2013 (ČSN EN 826:2013).

Test was carried out by: Technical and Test Institute for Construction Prague – Branch Prague.

Date of the test ending: 24.08.2022.

Another data concerning the test: see Test Report No. 010-046082 of 31.10.2022.

Table No. 15: XPS 30 – thickness 20 mm

Sample No.	1	2	3	4	5	Mean value
Compressive stress at 10% strain σ_{10} [kPa]	242.45	265.65	239.95	225.45	236.60	242.00

Table No. 16: XPS 30 – thickness 50 mm

Sample No.	1	2	3	4	5	Mean value
Compressive stress at 10% strain σ_{10} [kPa]	257.85	249.20	246.40	246.15	287.70	257.45

Table No. 17: XPS 30 – thickness 100 mm

Sample No.	1	2	3	4	5	Mean value
Compressive stress at 10% strain σ_{10} [kPa]	369.80	335.45	341.25	338.85	338.55	**344.80**

Table No. 18: XPS 30 – thickness 200 mm

Sample No.	1	2	3	4	5	Mean value
Compressive stress at 10% strain σ_{10} [kPa]	423.90	436.75	458.3	434.20	437.70	**438.15**

4. Annexes

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague
Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznámený subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán / Accredited Testing Laboratory, Authorised Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body.
Central laboratory – Testing Department Prague
Prosecká 811/76a, 190 00 Praha 9
phone.: +420 286 019 435, e-mail: praha@tzus.cz, www.tzus.eu

L 1018.3

Testing Laboratory No 1018.3
accredited by ČIA pursuant to ČSN EN ISO/IEC 17025:2018

TEST REPORT

No 010-046082

on test of
- **determination of compression behaviour**
- **determination of long - term water absorption by immersion**
- **determination of thermal conductivity coefficient, thermal resistance and apparent density**
- **determination of thickness**

Manufacturer:	**EURO FISI group LLC**
Address:	Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo
Identification No:	810196908
Plant:	**EURO FISI group LLC**
Address:	Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo
Test sample:	**XPS 30**
Order No:	Z010220097

Number of pages of the test report incl. title page: 7 Pages of annexes: 0

Prepared by:

Ing. Zdeněk Kočí
test technician - specialist

Approved by:

Ing. Radka Sedmidubská
head of the Testing Department

Copy No: 1
Number of copies: 4

Prague, on 31.10.2022

stamp of the testing laboratory No 1018.3

Declaration: 1) The test results in this Report relate only to the tested article and they do not substitute any other documents.
2) The test report must be copied as a whole only otherwise a written consent of the testing laboratory is needed.

1. Sample data

Evidence Number:	- VZ010220256 - XPS 30 (1250x600x20) mm - VZ010220257 - XPS 100 (1250x600x50) mm - VZ010220258 - XPS 100 (1250x600x100) mm - VZ010220259 - XPS 100 (1250x600x200) mm
Sample:	- XPS 30 (1250x600x20) mm - XPS 30 (1250x600x50) mm - XPS 30 (1250x600x100) mm - XPS 30 (1250x600x200) mm
Order:	Z010220097
Date of sample delivery:	24.06.2022
Sampling place:	not mentioned
Sampling method:	not mentioned
Method of the sample preparation:	Preparation of test samples was performed according to technical requirements of the applicant and test samples were prepared according to relevant standard.

The test results apply to the sample as received.

2. Test methods

Identification of the test method		Title of the test method
ČSN EN 826	Thermal insulating products for building applications - Determination of compression behaviour	Pressure test
ČSN EN ISO 16535*	Thermal insulating products for building applications - Determination of long-term water absorption by immersion *Note: *This standard replaced ČSN EN 12087.*	Determination of long term water absorption by immersion
ČSN EN 1602	Thermal insulating products for building applications - Determination of the apparent density	Determination of mass per unit volume
ČSN 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	Determination of thermal resistance by means of guarded hot plate and heat flow meter methods
ČSN EN 823	Thermal insulating products for building applications - Determination of thickness	Determination of thickness

Additions, deviations or exclusions from the standard procedure or use of non-standardized methods: were not applied.

Other, related standards:

ČSN EN 13163+A1:2016 (EN 13163:2012+A1:2015)	Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products - Specification

3. Test results

The tests were performed on:	11.07.2022 – 21.10.2022
Place of testing:	Laboratories of Testing Department Prague
The tests were performed by:	Michal Kadeřávek, Jiří Novák, Tomáš Simaichl

Data on the test conditions and equipment used are listed in the Test Minutes. Apparatuses and measuring instruments that were used have been calibrated and verified pursuant to the valid plan of Testing Department Prague.

Laboratory conditions: Temperature (23 ± 2) °C, Relative humidity (50 ± 5) %

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p. Akreditovaná zkušební laboratoř č. 1018.3 ZÚS Zkušebna Praha Centrální laboratoř

3.1 Determination of compressive stress at 10 % deformation according to ČSN EN 826

The test was performed at (23 ± 2) °C and relative air humidity (50 ± 5) %.

Controlled environment of (23 ± 2) °C and relative air humidity (50 ± 5) % was used to condition the samples for min. 6 hours before the test.

Initial pressure: (250 ± 10) kPa

Table No. 1: XPS 30 – thickness 20 mm

Sample No.	1	2	3	4	5	Mean value*
Compressive stress at 10% strain σ_{10} [kPa]	242.45	265.65	239.95	225.45	236.60	**242.00**

Note: Mean value rounded to the nearest 0.05 kPa

Table No. 2: XPS 30 – thickness 50 mm

Sample No.	1	2	3	4	5	Mean value*
Compressive stress at 10% strain σ_{10} [kPa]	257.85	249.20	246.40	246.15	287.70	**257.45**

Note: Mean value rounded to the nearest 0.05 kPa

Table No. 3: XPS 30 – thickness 100 mm

Sample No.	1	2	3	4	5	Mean value*
Compressive stress at 10% strain σ_{10} [kPa]	369.80	335.45	341.25	338.85	338.55	**344.80**

Note: Mean value rounded to the nearest 0.05 kPa

Table No. 4: XPS 30 – thickness 200 mm

Sample No.	1	2	3	4	5	Mean value*
Compressive stress at 10% strain σ_{10} [kPa]	423.90	436.75	458.3	434.20	437.70	**438.15**

Note: Mean value rounded to the nearest 0.05 kPa

3.2 Determination of long-term water absorption by immersion according to ČSN EN ISO 16535 (method 2A)

Duration of testing: 28 days
Bottom part of the test specimens was always in contact with water. Both sides A and B of test sample were tested. Tests were performed at (23 ± 2) °C. Samples were stored before beginning of the test for at least 6 hours at (23 ± 2) °C and (50 ± 5) % relative air humidity.

Table No. 5: XPS 30 – thickness 20 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.71	1.60	1.61
Arithmetic mean of W_{lt} [%]			**1.6**

Table No. 6: XPS 30 – thickness 50 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.15	1.15	1.14
Arithmetic mean of W_{lt} [%]			1,1

Table No. 7: XPS 30 – thickness 100 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	1.33	1.31	1.33
Arithmetic mean of W_{lt} [%]			1.3

Table No. 8: XPS 30 – thickness 200 mm

Sample No.	1	2	3
Individual values of W_{lt} [%]	0.93	0.99	0.93
Arithmetic mean of W_{lt} [%]			1.0

3.3 Determination of thermal resistance according to ČSN EN 12667 and apparent density according to ČSN EN 1602

A heat flow meter testing device was used for the test. It consists of a heating unit and a cooling unit with a single sample and a single heat flow meter. Measurement was taken at 10 °C mean test temperature. No significant changes in sample weight were observed during the test.
Test on apparent density was performed at (23 ± 2) °C and relative air humidity (50 ± 5) %.
Controlled environment of (23 ± 2) °C and relative air humidity (50 ± 5) % was used to condition the samples for min. 6 hours before the test.

Table No. 9: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m^2·K/W]	[kg/m^3]	[kg/m^3]
VZ010220256/1	0.02010	0.03479	0.578	30.5	30.6
VZ010220256/2	0.02006	0.03491	0.575	30.6	30.7
VZ010220256/3	0.02005	0.03491	0.574	30.6	30.6
VZ010220256/4	0.02007	0.03490	0.575	30.6	30.7

Table No. 10: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220258/1	0.09898	0.03404	2.908	32.1	32.1
VZ010220258/2	0.09904	0.03409	2.905	32.0	32.1

Table No. 11: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220259/1	0.19562	0.03596	5.440	33.0	33.1
VZ010220259/2	0.19586	0.03577	5.476	32.9	33.0
VZ010220259/3	0.19605	0.03582	5.473	33.0	33.0
VZ010220259/4	0.19601	0.03587	5.464	32.8	32.8

3.4 Determination of the aged values of thermal resistance according to ČSN EN 12667 and apparent density according to ČSN EN 1602

A heat flow meter testing device was used for the test. It consists of a heating unit and a cooling unit with a single sample and a single heat flow meter. Measurement was taken at 10 °C mean test temperature. No significant changes in sample weight were observed during the test.
Test on apparent density was performed at (23 ± 2) °C and relative air humidity (50 ± 5) %.
Each test specimen was cut into slices (10 ± 1) m, retaining the surface skins, when present.
Store the individual slices at (23 ± 2) °C and (50 ± 5) % relative air humidity for the following time periods:

- (90 +2/-2) days for XPS foam thicknesses of 20 to 70 mm
- (50 +2/-1) days for XPS foam thicknesses of > 70-120 mm
- (30 +2/-0) days for XPS foam thicknesses > 120 mm

Table No. 12: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220256/1	0.02042	0.03486	0.586	32.1	32.7
VZ010220256/2	0.02050	0.03488	0.588	33.4	33.5
VZ010220256/3	0.02034	0.03489	0.583	32.9	33.1
VZ010220256/4	0.02040	0.03486	0.585	33.1	33.2

Table No. 13: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220258/1	0.09910	0.03866	2.563	32.7	32.7
VZ010220258/2	0.09914	0.03866	2.564	32.7	32.8

Table No. 14: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results				
	Thickness during the test	Thermal conductivity coefficient	Thermal resistance	Apparent density before the test	Apparent density after the test
	[m]	[W/(m·K)]	[m²·K/W]	[kg/m³]	[kg/m³]
VZ010220259/1	0.19561	0.04282	4.568	32.7	32.7
VZ010220259/2	0.19570	0.04244	4.611	32.1	32.1
VZ010220259/3	0.19595	0.04236	4.626	32.2	32.2
VZ010220259/4	0.19567	0.04229	4.627	32.2	32.2

3.5 Determination of thickness according to ČSN EN 823

Table No. 15: XPS 30 – thickness 20 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220256/1	20.1	20.2	20.0	20.0	**20**
VZ010220256/2	20.2	20.2	19.9	19.9	**20**
VZ010220256/3	19.8	19.9	20.2	20.3	**20**
VZ010220256/4	19.9	20.0	20.2	20.2	**20**

Table No. 16: XPS 30 – thickness 100 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220258/1	99.3	99.6	99.4	98.6	**99**
VZ010220258/2	99.4	99.3	98.8	98.6	**99**

Table No. 17: XPS 30 – thickness 200 mm

Insulation product:	XPS 30				
Sample No.	Measurement results [mm]				
	Points of the test specimen				Mean value
	d_1	d_2	d_3	d_4	
VZ010220259/1	195.3	195.8	195.5	195.9	**196**
VZ010220259/2	195.5	195.1	196.6	196.2	**196**
VZ010220259/3	196.2	196.2	195.9	195.9	**196**
VZ010220259/4	196.2	196.0	196.0	195.8	**196**

END OF THE TEST REPORT

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TZÚS
Zkušebna Praha
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Testing Laboratory No 1018.3
accredited by ČIA pursuant to ČSN EN ISO/IEC 17025:2018

TEST REPORT

No. 010-045942

on reaction to fire - single-flame source test

Manufacturer:	EURO FISI group LLC
Address:	Rruga Gjilani Nr.61, Radivojce 61000 Viti Kosovo
Identification No:	81019608
Ordering party:	Notified Body 1020, Technical and Test Institute for Construction Prague, SOE, Branch 0100 – Prague, Prosecká 811/76a, 190 00 Praha 9, Czech Republic
Test sample:	**XPS 30 20 mm** **XPS 30 100 mm**
Order No.:	Z010220097

Number of pages of the Test Report incl. title page:6 Number of annexes: -

Prepared by:

Michal Kadeřávek
test technician - specialist

Approved by:

Ing. Radka Sedmidubská
head of the Testing Department

Copy No: 1

Number of prints:4

Praha, 25.08.2022

stamp of the Testing laboratory No. 1018.3

Declaration: *1) The test results in this test report relate only to the tested product and they do not substitute any other documents*
2) The test report shall be copied as a whole only otherwise a written consent of the testing laboratory is needed.

1. Sample data

Evidence Number: VZ010220256 – XPS 30, 20 mm
VZ010220258 – XPS 30, 100 mm

Sample: EXTRUDED POLYSTYRENE:
XPS 30 20 mm
Thickness: 10 mm
XPS 30 100 mm
Thickness: 60 mm

Dimensions of the test specimen: (250 x 90) mm

Order No.: Z010220097
Date of delivery: 24.06.2022
Sampling place: Samples were taken over in the premises of TZÚS in Prague
Sampling method: Not stated

The test results are related to the sample as received. The sample preparation was performed according to the technical requirements of the applicant and the test samples were prepared for testing according to the relevant standard.

2. Test methods

Identification of the test method		Test method
ČSN EN ISO 11925-2:2020	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test	Reaction to fire tests - Single-flame source test

Other relevant standards:

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

**This standard is out of the scope of accreditation*

Deviations from the standard procedure or use of non-standardized methods: were not applied.

3. Test results

The tests were performed on: 22.08.2022
Place of testing: TZÚS Prague, Testing Department Prague
The tests were performed by: Michal Kadeřávek

Data on the person who performed the test, test conditions and equipment used are listed in the test minutes. Apparatuses and measuring instruments that used have been verified pursuant to a valid plan of the Testing Department Prague.

The flame spread above 150 mm from the point of contact of the test flame, the time at which this occurred and the ignition of the filter paper placed under the test piece are evaluated. The possible spread of the flame is monitored within 20 s after the application of the test flame of the small burner.

The test specimens were conditioned according to ČSN EN 13238: 2010 at an air temperature of (23 ± 2) °C and a relative air humidity of (50 ± 5) % to a constant weight.

3.1 Single flame source test -surface exposure (ČSN EN ISO 11925-2 *Cl.* 7.3.3.1)

Sample: VZ010220256 XPS 30 10 mm

Table No 1

	No.1: Longitudinal direction	No.2: Longitudinal direction	No.3: Longitudinal direction	No.4: Transverse direction	No.5: Transverse direction	No.6: Transverse direction
Ignition of the sample	yes	yes	yes	yes	yes	yes
Reaching the flame a distance of 150 mm above the action of a small burner [s]	10	12	10	10	10	10
Length of melted trace [mm]	150	150	150	150	150	150
Width of melted trace [mm]	90	90	90	90	90	90
Ignition of filter paper yes / no	no	no	no	no	no	no
Occurrence of flame burning drops	yes	yes	yes	yes	yes	yes
Occurrence of flame burning particles	no	no	no	no	no	no
Observed behavior of test specimen	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area

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Sample: VZ010220258 XPS 30 60 mm

Table No 2

	No.1: Longitudinal direction	No.2: Longitudinal direction	No.3: Longitudinal direction	No.4: Transverse direction	No.5: Transverse direction	No.6: Transverse direction
Ignition of the sample	yes	yes	yes	yes	yes	yes
Reaching the flame a distance of 150 mm above the action of a small burner [s]	-	-	-	-	-	-
Length of melted trace [mm]	150	150	150	150	150	150
Width of melted trace [mm]	50	50	50	50	50	50
Ignition of filter paper yes / no	no	no	no	no	no	no
Occurrence of flame burning drops	no	no	no	no	no	no
Occurrence of flame burning particles	no	no	no	no	no	no
Observed behavior of test specimen	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off

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Zkušebna Praha
Centrální laboratoř

3.2 Single flame source test -exposure of edge (ČSN EN ISO 11925-2 *Cl.* 7.3.3.2)

Sample: VZ010220256 XPS 30 10 mm

Table No 5

Sample identification	No.1: Longitudinal direction	No.2: Longitudinal direction	No.3: Longitudinal direction	No.4: Transverse direction	No.5: Transverse direction	No.6: Transverse direction
Ignition of the sample	yes	yes	yes	yes	yes	yes
Reaching the flame a distance of 150 mm above the action of a small burner [s]	10	8	10	10	12	10
Length of melted trace [mm]	150	150	150	150	150	150
Width of melted trace [mm]	90	90	90	90	90	90
Ignition of filter paper yes / no	no	no	no	no	no	no
Occurrence of flame burning drops	yes	yes	yes	yes	yes	yes
Occurrence of flame burning particles	no	no	no	no	no	no
Observed behavior of test specimen	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area	Burns out in whole area

Sample: VZ010220258 XPS 30 60 mm

Table No 6

Sample identification	No.1: Longitudinal direction	No.2: Longitudinal direction	No.3: Longitudinal direction	No.4: Transverse direction	No.5: Transverse direction	No.6: Transverse direction
Ignition of the sample	yes	yes	yes	yes	yes	yes
Reaching the flame a distance of 150 mm above the action of a small burner [s]	-	-	-	-	-	-
Length of melted trace [mm]	140	150	150	150	150	150
Width of melted trace [mm]	40	40	40	40	40	40
Ignition of filter paper yes / no	no	no	no	no	no	no
Occurrence of flame burning drops	yes	yes	yes	yes	yes	yes
Occurrence of flame burning particles	no	no	no	no	no	no
Observed behavior of test specimen	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off	The flame goes in 15s after is burner is turned off

END OF THE TEST REPORT