

DEPARTEMENT FOR BUILDING PHYSICS**Fire Laboratory and Fire Engineering**

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Member of egolf- European Group of Organisations for
Fire Testing, Inspection and Certifications

Ljubljana, 18. 6. 2020

CLASSIFICATION REPORT
No. 692/19–530–5Classification of reaction to fire in accordance with
Commission delegated Regulation (EU) 2016/364
and SIST EN 13501-1:2019for a product self-supporting double skin metal
faced **PIR roof panel R . PU 25.12** from non-
profiled or low profiled side only

Orderer: **Metallemporiki – Th. Markis S.A.,**
6th km Larissa-Sikurio,
GR-41004 Larissa

Order/contract: **740/2019, 19. 7. 2019**

Responsible investigator: **Nataša Knez, Ph. D.**Head of laboratory: **Friderik Knez, B. Sc.**Director:  **Assist. Prof. Dr. Aleš Žnidarič**

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Total number of pages: 5; total number of annexes: /; total number of supplements: /.

1. Introduction

This classification report defines the classification assigned to a product factory made self-supporting double skin metal faced insulation polyurethane core panels **Polyurethane roof cover panel R . PU 25.12** in accordance with the procedures given in Commission delegated Regulation (EU) 2016/364 and SIST EN 13501-1:2019 (identical to EN 13501-1:2018).

2. Details of classified product:

2.1 General:

PIR roof panel is made of polyurethane insulation core with light profiled metal sheet with PE coating. Joints and corners are protected with fire resisting sealant. Roof panels are asymmetrically. The steel sheets of roof panels are light profiled from one side and have trapezoidal profile on the other side. The product was tested from one side only – the side with light profiled was exposed to the flames.

The product is used as non-loadbearing roofs.

2.2 Product description:

Nominal overall thickness: 30 mm to 120 mm

Tested thickness: 40 mm and 150 mm

Nominal density of PIR core: 40 kg/m³

Tested metal sheet thickness (internal and external): 0,5 mm

Used sealant: Sikacryl – 620 Fire White.

Colour of the tested product was white.

Tested panels were wall panels with the same profile as the roof panels on the exposed side.

3. Test reports and test results in support of classification:

3.1 Test reports:

Laboratory	Name of sponsor	Report No.	Test method
ZAG Ljubljana	Metallporiki Th. - Markis S.A.	692/19-530-1	SIST EN ISO 11925-2:2011 /AC:2011
ZAG Ljubljana	Metallporiki Th. - Markis S.A.	692/19-530-2	SIST EN 13823:2011 +A1:2015
ZAG Ljubljana	Metallporiki Th. - Markis S.A.	692/19-530-3	SIST EN 13823:2011 +A1:2015



3.2 Test results:

Test method flame application time	Exposure condition parameter	No. of tests	Results	
			Continuous parameter mean [mm]	Compliance with parameter
SIST EN ISO 11925-2: 2011/AC:2011 Flame: 30 seconds exposed	Surface: $F_s \leq 150$ mm	6	20	Yes
	Edge: $F_s \leq 150$ mm	6	20	Yes
	Ignition of the paper		No ignition	-
SIST EN 13823:2011 +A1:2015 Thickness 40 mm	FIGRA _{0,2 MJ} (W/s)	3	50,6	-
	FIGRA _{0,4 MJ} (W/s)		45,2	-
	LFS < rob		No	compliant
	THR _{600s} (MJ)		2,9	-
	SMOGRA (m ² /s ²)*		4,8	-
	TSP _{600s} (m ²)*		42,6	-
	Flaming droplets/particles		no	compliant
SIST EN 13823:2011 +A1:2015 Thickness 150 mm	FIGRA _{0,2 MJ} (W/s)	3	74,3	-
	FIGRA _{0,4 MJ} (W/s)		70,3	-
	LFS < rob		No	compliant
	THR _{600s} (MJ)		4,3	-
	SMOGRA (m ² /s ²)*		5,8	-
	TSP _{600s} (m ²)*		47,2	-
	Flaming droplets/particles		no	compliant

*calculated according to alternative method as described in A.6.1.2 of SIST EN 13823:2011+A1:2015

4. Classification and field of application:

4.1 Reference:

This classification has been carried out in accordance with Commission delegated Regulation (EU) 2016/364 and SIST EN 13501-1:2019.

Standard SIST EN 13501-1:2019 is identical to EN 13501-1:2018.

4.2 Classification:

4.2.1 The format of the reaction to fire classification is:

The product factory made self-supporting double skin metal faced insulation polyurethane core panels **Polyurethane roof cover panel R . PU 25.12** from non-profiled or low profiled side only in relation to its reaction to fire behaviour is classified: **B**

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

dro



Fire behaviour		Smoke production			Flaming droplets	
B	-	s	1	,	d	0

Reaction to fire classification: B – s1, d0

4.3 Field of application:

This classification is valid for **Polyurethane roof cover panel R . PU 25.12** from non-profiled or low profiled side only as described under section 2 with following application of test results:

The test results are directly applicable to similar panels provided the following is true:

Steel-sheet facing (according to SIST EN 14509:2014)

- valid for all grades of tested metal type,
- the thickness of the steel-sheet facing on the unexposed side may vary from 0,5 mm up to 1 mm,
- the thickness of the steel-sheet facing on the exposed side may vary from 0,5 mm up to 1 mm,
- profile geometry of inside facing: valid for other types of flat or light profile,

Surface coating of tested face:

- for coatings with PCS value > 4 MJ/m²: valid for all coatings with PCS values lower than that tested within manufacturing tolerances,
- valid for all colours,

Joint design (according to SIST EN 14509:2014)

- valid for similar types of overlapping joint with facings of the same profile where the metal overlapping tongue on the internal face is ≥ 15 mm,

Seals and gaskets (integral with panel) (according to SIST EN 14509:2014)

- valid only for the types of joint seals and gaskets tested and for those of equal or lower PCS value

Insulating core (according to SIST EN 14509:2014)

- valid for the same chemical system and blowing agent as tested



- density of polyurethane core may vary from 34 kg/m³ to 46 kg/m

Thickness of panel (according to SIST EN 14509:2014)

- the results are valid for panels from 40 mm and up to 200 mm or more

Orientation of panels (according to SIST EN 14509:2014)

- test results are valid for vertically and horizontally installed all panels and ceiling applications
- Valid for exposure of the non-profiled and light profiled side only

Metal corner flashings (according to SIST EN 14509:2014)

- valid for end use steel sheet flashings of at least 0,5 mm thickness and at least tested width (inner: 50 mm × 50 mm, outer: 50 mm × (panel thickness + 50) mm)

Fixing for metal flashings (according to SIST EN 14509:2014)

- valid for fixing spacing of 400 mm or less

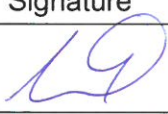
Seals (not part of the manufactured panel (according to SIST EN 14509:2014)

- valid only for sealed joints
- valid for the seals of the same type as tested or seals with the same or lower PCS

Standard SIST EN 14509:2014 is identical to EN 14509:2013. For A1 and A2 substrates including steel substrates.

Warning

This document does not represent type approval or certification of the product.

	Name	Signature	Date
Person undertaking classification:	Robert umek		18.6.2020
Person authorising this report:	Nataša Knez, Ph.D.		18.6.2020

