

CLASSIFICATION OF FIRE RESISTANCE

FIRES-CR-185-24-AUPE

Roof made of sandwich panels, type HPTTD 5, 100 mm thick, with PIR core

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CLASSIFICATION OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2: 2023 with direct field of application

FIRES-CR-185-24-AUPE

Name of the product: Roof made of sandwich panels, type HPTTD 5, 100 mm thick, with PIR core

Sponsor: ISOPAN POLAND Sp. z. o.o.
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1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element Roof made of sandwich panels, type HPTTD 5, 100 mm thick, with PIR core, in accordance with the procedures given in EN 13501-2: 2023.

The testing laboratory FIRES, s.r.o. issued Classification of fire resistance No. FIRES-CR-214-17-AUPE for the classified product on 25. 09. 2017.

The name of classified product was changed against the name of tested product at a request of the sponsor, whereupon the manufacturer declared that the product is identical to that tested.

The commercial name of the manufacturer has changed from Marcegaglia Poland Sp. z o.o., to ISOPAN POLAND Sp. z. o.o.

Compared to the previous document, the possibility to increase the thickness of panels has been withdrawn.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Roof made of sandwich panels, type HPTTD 5, 100 mm thick, with PIR core, is defined as a loadbearing roof with a separating function from below in accordance with EN 14509.

2.2 PRODUCT DESCRIPTION

The element is a roof made of self-supporting double skin metal faced insulating HPTTD 5 panels with a thickness of 100 mm (valley), with a PIR core.

Dimensions

modular panel width	1000 mm
panel thickness at valley	100 mm
panel thickness on rib	140 mm
height / width of rib	38 mm / 25 mm
distance between ribs	250 mm

Panel core

Polyisocyanurate foam, with a bulk density of 35,0 kg/m³ (manufacturer: HUNTSMAN).

Panel facing

- exterior face: steel sheet 0,5 mm thick (manufacturer: ISOPAN POLAND Sp. z. o.o.);
profile geometry: trapezoidal, as described above;
- interior face: steel sheet 0,4 mm thick, (manufacturer: ISOPAN POLAND Sp. z. o.o.)
profile geometry: Lined.

Stitching

The joints of panels are stitched on the top roof face by means of steel screws (4,8 x 20) mm, spaced each 300 mm on the upper side only.

Sealing

No seal in the joins of panels.

2.3 PRODUCT FIXING

The product is laid on a supporting structure made of supports with width of top surface min. of 82 mm and thickness min. of 7,4 mm, placed in axis distance (span) of 2000 mm. The product is used as a two or more span structure.

Each panel is fixed to the supporting structure (supports) by steel self-drilling screws (Ø 5,5 x 186) mm with washers with EPDM sealing, placed at each panel rib.



More detailed information on the product construction is shown in the drawings to test report [1] according to cl. 3.1.

3. TEST REPORTS IN SUPPORT OF CLASSIFICATION

3.1 TEST REPORTS

No.	Name of laboratory	Name of sponsor	Test report No.	Date of the test	Test method	Type of the test
[1]	FIRES, s.r.o., Batizovce, SR	Marcegaglia Poland Sp. z o.o., Praszka, PL	FIRES-FR-124-09-AUNE	14. 09. 2009	EN 1365-2:1999	A

Type of the test: A – accredited, N – non-accredited

Despite the fact that the test standard has changed since the test was carried out, all the test results used correspond to the test standard EN 1365-2:2014 valid on the day of issue of this document.

[1] Test specimens were conditioned according to EN 1363-1 before the fire resistance test

3.2 TEST RESULTS

No./ Test method	Parameter	Results	
[1] EN 1365-2:1999	applied load	continuous static load 0,20 kN.m ²	
	supporting construction	steel profiles IPE160 placed in axis spacing of (span) 2000 mm and 1600 mm; width of the support: 82 mm, thickness of the flange: 7,4 mm	
	temperature curve	standard temperature/time curve	
	loadbearing capacity	42 minutes no failure	
	integrity	cotton pad	42 minutes no failure
		gap gauges	42 minutes no failure
		sustained flaming	42 minutes
	thermal insulation	average temperature (140 K)	34 minutes
		maximal temperature (180 K)	30 minutes
test specimen	loadbearing roof made of sandwich panels GRECATO PGB T5, PIR core, thickness 100 mm		

[1] The test was discontinued in 44th minute because of the specimen integrity failure

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 7.3.3 of EN 13501-2: 2023.



4.2 CLASSIFICATION

The element, **Roof made of sandwich panels, type HPTTD 5, 100 mm thick, with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

<p>Fire resistance classification:</p> <p>REI 30; RE 30</p>

4.3 FIELD OF APPLICATION

This classification is valid according to EN 1365-2: 2014 for the following end use applications:

Type of structure	- the product is used as a continuous beam with two or more spans (it is not allowed to use the product as a simply supported beam);
Loading	- the maximum bending moments and maximum normal forces calculated on the same basis as during the fire test may not be higher than the bending moments and normal forces arisen at fire test [1] acc. to cl. 3 of the document;
Slope of the roof	- an inclination within the range from 0° to 15° is allowed.

5. LIMITATIONS

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

The classification is valid provided that the product, field of application and standards and regulations are not changed.

Approved by:

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Head of the Testing Laboratory

Prepared by:

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