

CLASSIFICATION OF FIRE RESISTANCE FIRES-CR-077-10-AUPE

**Roof made of sandwich panels IZOPANEL PUR D, 80 mm thick
with polyurethane core**



This is an electronic version of a classification report which was made as a copy of classification report officially issued in a paper form. The electronic version of a classification report shall be used only for informative purpose. Any information listed in this classification report is the property of the sponsor and shall not be used or published without written permission. Contents of this file may only be modified by the editor i.e. FIRES, s.r.o., Batizovce. Sponsor is allowed to publish this classification report in parts only with written permission of the editor.



CLASSIFICATION OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2:2007+A1:2009 with direct field of application

FIRES-CR-077-10-AUPE

Name of the product: Roof made of sandwich panels IZOPANEL PUR D, 80 mm thick with polyurethane core

Sponsor: IZOPANEL Sp. z o. o.
ul. Budowlanych 36
80-298 Gdańsk
Poland

Prepared by: FIRES, s.r.o.
Approved Body No. SK01
Osloboditeľov 282
059 35 Batizovce
Slovak Republic

Notified Body No.: 1396

Task No.: PR-10-0133

Date of issue: 11. 06. 2010

Reports: 3
Copy No.: 2

Distribution list:

Copy No. 1 FIRES, s. r. o., Osloboditeľov 282, 059 35 Batizovce, Slovak Republic
(electronic version)
Copy No. 2 IZOPANEL Sp. z o. o., ul. Budowlanych 36, 80-298 Gdańsk, Poland
(electronic version)
Copy No. 3 IZOPANEL Sp. z o. o., ul. Budowlanych 36, 80-298 Gdańsk, Poland

This classification report consists of 4 pages and may only be used or reproduced in its entirety.

This report includes accreditation mark SNAS with additional mark ILAC-MRA. These marks confirm that all activities carried out by FIRES, s.r.o. Batizovce, recorded in this report, are in according accreditation rules and under supervision of SNAS. SNAS is signatory of ILAC-MRA, Mutual recognition agreement (of accreditation), which is focused on promoting of international acceptance of accredited laboratory data and reducing technical barriers to trade, such as the retesting of products on markets of signatories. More information about ILAC-MRA is on www.ilac.org. Signatories of ILAC-MRA are e.g. SNAS (Slovakia), CAI (Czech Republic), PCA (Poland), DAP (Germany) or BWA (Austria). Up to date list of ILAC-MRA signatories is on www.ilac.org/documents/mra_signatories.pdf. FIRES, s.r.o. Batizovce is full member of EGOLF also, more information www.egolf.org.uk.



1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element Roof made of sandwich panels IZOPANEL PUR D, 80 mm thick with polyurethane core in accordance with the procedures given in EN 13501-2:2007+A1:2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element is defined as a load-bearing roof with fire resistance.

2.2 PRODUCT DESCRIPTION

Roof is made of sandwich panels type IZOPANEL PUR D with thickness 80 mm (and 115 mm measured in the crown of trapezoidal sheet).

Modular width of the panels is 1080 mm.

Panel core

Core of sandwich panel is created by Polyurethane foam with bulk density of 40 kg/m³. Manufacturer: IZOPANEL Sp. z o. o., Poland (raw materials from Bayer MaterialScience AG, 51368 Leverkusen, Germany).

Panel covering

- external (upper) facing: 0,50 mm thick steel sheet S280GD, trapezoidal profiling - height of profile: 35 mm; type of paint and thickness of paint: Z275 or AZ150 and SP (25 µm); manufacturer of the steel sheet: Corus Polska Sp. z o. o., ul. Piastowska 7, Katowice,
- internal (bottom) facing: 0,40 mm thick steel sheet S280GD, linear profiling; type of paint and thickness of paint: Z275 or AZ150 and SP (25 µm); manufacturer of the steel sheet: Corus Polska Sp. z o. o., ul. Piastowska 7, Katowice

Gasket inside the joint

Type PU, dimensions (105 x 6) mm, (width x thickness). Manufacturer: Interchemall.

More detailed information about product construction is shown in the test report [1] acc. to paragraph 3.1 of the document.

2.3 PRODUCT FIXING

Roof made of sandwich panels type IZOPANEL PUR D was tested as 2- and more-span continuous beam with span of 2500 mm and 1500 mm.

Fixation of roof to the load-bearing profiles (beams) is realized by means of self-drilling steel screws (Ø 5,5 x 140) mm placed 100 mm from the edges of the test specimen and at the joints of panels.

On the bottom face the joints of panels are stitched with self-drilling steel screws (Ø 4,2 x 16) mm with washers with EPDM sealing, spaced each 300 mm.



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
[1]	FIRES, s.r.o., Batizovce, Slovak Republic	IZOPANEL Sp. z o. o., ul. Budowlanych 36, 80-298 Gdańsk, Poland	FIRES-FR-102-10- AUNE	08. 06. 2010	EN 1365-2: 1999

[1] Test specimen was 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 load 24,0 kg/m ²	
	supporting construction	three steel profiles IPE 140, spaced 2500 mm and 1500 mm	
	temperature curve	standard temperature/time curve	
	loadbearing capacity	62 minutes no failure	
	integrity	cotton pad	62 minutes no failure
		gap gauges	62 minutes no failure
		sustained flaming	62 minutes no failure
	thermal insulation	average temperature	18 minutes
maximum temperature		15 minutes	

[1] The test was discontinued in 63rd minute at request of the sponsor.

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

The classification is carried out in accordance with EN 13501-2:2007+A1:2009, clause 7.3.3.

4.2 CLASSIFICATION

The element, Roof made of sandwich panels type IZOPANEL PUR D is classified according to the following combinations of performance parameters and classes as appropriate.

**Fire resistance classification:
R 30 / RE 60 / REI 15**

EN 13501-2, paragraph 7.3.3.4 does not define class R 60, but the product meets criteria of load-bearing capacity during 60 minutes.



4.3 FIELD OF APPLICATION

This classification is valid for the following end use applications:

Panel thickness	It is allowed to increase the panel thickness (the higher thickness is to be statically considered)
Type of structure	Product is used as 2 and more-span continuous structure (it is not allowed to use the product as 1-span structure)
Loading	Maximum bending moments and maximum normal force calculated on the same base as during the fire test may not be higher than bending moments and normal force arisen at fire test [1] acc. to paragraph 3 of the document,
Slope of the roof	It shall be within a range of $0^{\circ} \div 25^{\circ}$.

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:

Signed:

Ing. Štefan Rástocký
leader of the testing laboratory



Ing. Peter Rákoci
technician of the testing laboratory