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CLASSIFICATION OF FIRE RESISTANCE
FIRES-CR-188-24-AUPE

Non-loadbearing wall made of horizontally oriented sandwich panels, type 100L with PIR core

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Reg. No. 041/S-159

CLASSIFICATION OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2: 2023

with direct field of application

FIRES-CR-188-24-AUPE

Name of the product:	Non-loadbearing wall made of horizontally oriented sandwich panels, type 100L with PIR core
Sponsor:	ISOPAN POLAND Sp. z. o.o. ul. Kaliska 72 46-320 Praszka Poland
Prepared by:	FIRES, s.r.o. Notified Body No. 1396 Osloboditeľov 282 059 35 Batizovce Slovak Republic
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1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element Non-loadbearing wall made of horizontally oriented sandwich panels, type 100L 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-045-22-AUPE Edition 2 for the classified product on 15. 03. 2022.

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

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Non-loadbearing wall made of horizontally oriented sandwich panels, type 100L with PIR core, is defined as a a non-loadbearing wall with a fire separating function, used either as a partition or as an external wall according to EN 14509.

2.2 PRODUCT DESCRIPTION

The product is a non-loadbearing wall made of horizontally oriented sandwich panels, type 100L, with PIR core and unsymmetrical construction. Panels are used with butt joints in the core material.

Dimensions

Overall dimensions	(3000 x 03000) mm
Panel thickness	80 mm, 100 mm
Modular width of panel	1000 mm
Overlap of joints (measured by testing laboratory)	15,0 mm

Panel core
Polyisocyanurate rigid foam with nominal bulk density of 40,0 kg.m^{-3} (producer: Synthesia Europe).

Panel facing
The facing of the panels is made of 0,5 mm thick steel sheet, grade of steel S220GD, with 25 µm thick SP polyester coating; profile geometry: < 5 mm.

Sealing
Fire resistant sealant CS606 (producer: HILTI) is applied inside the groove of metal facing joints of panels on the internal panel face in the case of 80 mm thick panel, on the external panel face in the case of 100 mm thick panel.

Stitching
The joints of panels are not stitched.

2.3 PRODUCT FIXATION

Each sandwich panel is fixed to two vertical supports by means of steel self-drilling screws with washers with EPDM sealing; the screws dimensions are (5,5/6,3 x 115) mm in the case of 80 mm thick panel and (5,5/6,3 x 135) mm in the case of 100 mm thick panel; the screws are used through the panel at a distance of 100 mm from longitudinal panel edges and at mid-width of the panel.

The distance between the supporting elements (the span) is of 3000 mm. The distance between the supports can be increased according to conditions specified in the clause No. 4.3 of this report.

More detailed information on the product construction is shown in the test reports [1 – 2].

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-304-19-AUNE	17. 12. 2019	EN 1364-1: 2015	A
[2]			FIRES-FR-305-19-AUNE			A

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

[1] - [2] Test specimens were conditioned according to EN 1363-1 before the fire resistance test

3.2 TEST SPECIMENS

Test report No.	Samples information	Conditioning	Pre-fire tests
[1]	According to [1], cl. 3.	The specimens were stored in the hall of testing laboratory and conditioned according to EN 1363-1.	-

3.3 TEST RESULTS

No./ Test method	Parameter		Results
[1] EN 1364-1: 2015 80 mm thick panel	applied load		–
	specimen orientation		fire resistant sealant CS606 applied inside the joint of panels on the internal (exposed) wall face, horizontal orientation of the panels
	supporting construction		vertical steel L-profiles 70 x 70 x 5 mm placed in distance (span) of 3000 mm
	temperature curve		standard temperature/time curve
	loadbearing capacity		–
	integrity	cotton pad	29 minutes
		gap gauges	29 minutes no failure
		sustained flaming	29 minutes
	thermal insulation	average temperature (140 K)	29 minutes
		maximum temperature (180 K)	24 minutes
	radiation		29 minutes no failure
	achieved deflection 100 mm		28 minutes
	mechanical action		–
[2] EN 1364-1: 2015 100 mm thick panel	applied load		–
	specimen orientation		fire resistant sealant CS606 applied inside the joint of panels on the external (unexposed) wall face, horizontal orientation of the panels
	supporting construction		vertical steel L-profiles 70 x 70 x 5 mm placed in distance (span) of 3000 mm
	temperature curve		standard temperature/time curve
	loadbearing capacity		–
	integrity	cotton pad	24 minutes
		gap gauges	24 minutes no failure
		sustained flaming	24 minutes
	thermal insulation	average temperature (140 K)	24 minutes
		maximum temperature (180 K)	24 minutes
	radiation		24 minutes no failure
	achieved deflection 100 mm		24 minutes no failure
	mechanical action		–

The performance criteria of insulation are automatically assumed not to be satisfied when the criterion of integrity ceases to be satisfied (acc. to clause 11.4.2 of EN 1363-1).

[1] The test was discontinued in the 31st minute because of the specimen integrity failure
[2] The test was discontinued in the 26th minute because of the specimen integrity failure

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

Classification of partition has been carried out in accordance with EN 13501-2: 2023, cl. 7.5.2.
Classification of external wall has been carried out in accordance with EN 13501-2: 2023, cl. 7.5.3.

4.2 CLASSIFICATION

4.2.1 CLASSIFICATION OF PARTITION

The element, **Non-loadbearing wall made of horizontally oriented sandwich panels, type 100L, 80 mm, with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:
Note: valid from internal face only (fire resistant sealant applied inside the joint of panels on the internal panel face).

E 20; EI 20; EW 20

The element, **non-loadbearing wall made of horizontally oriented sandwich panels, type 100 L, 100 mm with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:
Note: valid from internal face only (fire resistant sealant applied inside the joint of panels on the external panel face).

E 20; EI 20; EW 20

4.2.2 CLASSIFICATION OF EXTERNAL WALL

The element, **non-loadbearing wall made of horizontally oriented sandwich panels type 100 L, 80 mm with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:
Note: fire resistant sealant applied inside the joint of panels on the internal panel face.

E 20 (i→o); EI 20 (i→o); EW 20 (i→o)

The element, **non-loadbearing wall made of horizontally oriented sandwich panels type 100 L, 100 mm with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification:

Note: fire resistant sealant applied inside the joint of panels on the external panel face.

E 20 (i→o); EI 20 (i→o); EW 20 (i→o)

4.3 FIELD OF APPLICATION

This classification is valid according to EN 1364-1: 2015 for the following end use applications:

Change of the dimensions	- decreasing of the wall height and width is allowed; - height of the wall may be increased by 1,0 m (max. height of the wall is 4000 mm), under condition that construction is not changed; - width of the structure can be increased by 1,0 m (max. width of structure is 4000 mm), under condition that expansion allowances are be increased pro-rata; - increase of the wall thickness is allowed
Construction of the wall	- increase of number of horizontal panels joints is allowed;
Supporting construction	- increase in fixation points of the wall to the supporting construction is allowed; - decrease in distance of fixing centres 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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