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CLASSIFICATION OF FIRE RESISTANCE
FIRES-CR-189-24-AURE

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

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CLASSIFICATION OF FIRE RESISTANCE
with extended field of application

FIRES-CR-189-24-AURE

Name of the product: Non-loadbearing wall made of vertically oriented sandwich panels type 100L with PIR core

Sponsor:
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1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element Non-loadbearing wall made of vertically oriented sandwich panels, type 100L with PIR core, in accordance with the classes given in EN 13501-2: 2023.

Extended application of test results has been elaborated in accordance with EN 15254-5: 2018 and is stated in extended application report [1] listed in cl. 3.1 of this document.

The testing laboratory FIRES, s.r.o. issued Classification report of fire resistance with extended field of application No. FIRES-CR-044-22-AURE for classified product. The report was issued on 15. 03. 2022.

The classifications given in the cl. 4.2 were updated in accordance with EN 13501-2: 2023.
In the case of the wall from 100 mm thick panels with stitching in the joints the exposure direction was restricted, see the cl. 4.2.

The name of classified product was changed against the name of tested product upon 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 following change has been included:
- more accurate information about intumescent tapes within the core joints of panels with thickness of 100 mm has been added.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Non-loadbearing wall made of vertically oriented sandwich panels, type 100L with PIR core, is defined as 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 vertically oriented sandwich panels of 100L type with a PIR core and a symmetrical construction. The panels are tested with a butt joint in the core material.

Dimensions

panel thickness	60 mm, 80 mm, 100 mm
modular width of panel	1000 mm
overlap of joints (measured by testing laboratory)	14,0 mm

Panel core
Polyisocyanurate foam, type STEPANFOAM RL 3922, with a bulk density of 40 kg/m^3 (manufacturer: STEPAN COMPANY).

Panel facing
- interior and exterior faces: 0,5 mm thick steel sheet, grade of metal S220GD,
  25 µm thick organic SP coating,
  profile geometry: < 5 mm
  (manufacturer: ISOPAN POLAND Sp. z. o.o.).

Sealing
An intumescent tape SEALBIFIRE (manufacturer: Bifire S.r.l., Italy) with dimensions as follows:
- (40 x 1,5) mm in case of 60 mm and 80 mm thick panel;
- (50 x 1,5) mm – two layers - in case of 100 mm thick panel;

is glued on the longitudinal panel edge (panel core) between adjacent panels.

Stitching
The joints of panels are not stitched - in the case of 60 mm and 80 mm thick panels.
The joints of panels are stitched using self-drilling steel screws (4,8 x 20) mm, placed on the exposed side with a spacing of 650 mm - in the case of 100 mm thick panels.

Product fixation
Each sandwich panel is fixed to two horizontal supports using self-drilling steel screws with washers with EPDM sealing, with dimensions:
(ø 5,5 x 93) mm in the case of 60 mm thick panel,
(ø 5,5 x 113) mm in the case of 80 mm thick panel,
(ø 5,5 x 142) mm in the case of 100 mm thick panel,
through panel at the panel corners and at the mid-width of the panel.

The supports are located at a distance (span) of 3000 mm. The distance between the supports can be increased according to the conditions specified in the clause No. 4.2 and 4.3 of this report.

More detailed information about product construction is shown in the drawings to test report [1] according to extended application report [1] (see cl. 3.1 of this document).

3. EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT OF CLASSIFICATION

3.1 EXTENDED APPLICATION REPORTS

No.	Name of laboratory	Name of sponsor	Report No.	Date of issue
[1]	FIRES, s.r.o., Batizovce, SR	ISOPAN POLAND Sp. z. o.o., Praszka, Poland	FIRES-ER-127-24-AURE	09. 01. 2025

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

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

4.2 CLASSIFICATION

4.2.1 CLASSIFICATION OF PARTITION

The element, **Non-loadbearing wall made of vertically oriented sandwich panels, type 100 L, 60 mm thick with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification	Maximum allowed span
E 30; EW 30	7 500 mm
E 15; EI 15; EW 15	4 000 mm

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

Fire resistance classification	Maximum allowed span
E 30; EW 30	7 500 mm
E 20; EI 20; EW 20	4 000 mm

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

Fire resistance classification (valid for fire action on internal panel face only)	Maximum allowed span
E 30; EI 20; EW 30	7 500 mm
E 45; EI 30; EW 45	3 000 mm

4.2.2 CLASSIFICATION OF EXTERNAL WALL

The element, **Non-loadbearing wall made of vertically oriented sandwich panels type 100 L, 60 mm thick with PIR core**, is classified according to the following combinations of performance parameters and classes as appropriate.

Fire resistance classification	Maximum allowed span
E 30 (o↔i); EW 30 (o↔i)	7 500 mm
E 15 (o↔i); EI 15 (o↔i); EW 15 (o↔i)	4 000 mm

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

Fire resistance classification	Maximum allowed span
E 30 (o↔i); EW 30 (o↔i)	7 500 mm
E 20 (o↔i); EI 20 (o↔i); EW 20 (o↔i)	4 000 mm

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

Fire resistance classification	Maximum allowed span
E 30 (i→o); EI 20 (i→o); EW 30 (i→o)	7 500 mm
E 30 (i→o)[1)]; EI 30 (i→o); EW 30 (i→o)[1)]	3 000 mm

[1)] Standard EN 13501-2: 2023, clause 7.5.3.4 does not define classes E 45 and EW 45, but classified product satisfies integrity (E) and heat radiation (W) performance criterion for classification time 45 minutes.

4.3 FIELD OF APPLICATION

This classification is valid for the following end use applications:

Note: To be able to combine variations, there shall be an overrun of at least 20 % subject to a minimum of 10 min compared to the classification.

Coatings	changes in colour within tested type of coating are allowed;
	test results are valid for coatings with higher emissivity values compared to the tested one;
	change from a coated to a non-coated sheet is not allowed;

	test results are valid for all coatings on the exposed panel face;
	change in emissivity of -10% for a new coating compared to the tested one is allowed if there is at least a 10% margin in the insulation test results compared to the I-classification; Note: The described change in emissivity is allowed only for panels with thickness of 100 mm with stitching in the joints and for classification periods of 15 minutes and 20 minutes.
	modifications in the coatings on the unexposed side are allowed provided that reaction to fire classification of the product is the same or better compared to the tested one;
Metal facings	changes in thickness of metal facing are allowed up to ± 0,2 mm; panels with different metal thicknesses on both sides are regarded as symmetrical if difference in thickness is max. 0,2 mm;
	changes in geometry of metal facing are allowed in the range from 0 mm to 5 mm; Note: This is allowable only if the declared tensile strength value is equal or higher than for the tested panel.
	changes in type of material of metal facing is allowed for all grades of tested normal steel;
Core	changes in type of core are not allowed;
	changes in density of bulk of PIR core are allowed up to ± 10%;
	test results are valid for the same chemical system and blowing agent;
Joint construction	increase in overlap of the metal facing at the panel-to-panel joint is allowed provided that others dimensions are not changed;
	in the case of 100 mm thick panels, the joints of panels are stitched using self-drilling steel screws (4,8 x 20) mm, placed on the exposed side at a spacing of 650 mm;
	increase in the amount of fixings is allowed (in the case of 100 mm thick panels);
	the intumescent sealing tape type Sealbifire according to clause 2.2 of this document can be replaced by other tape of the same type;
	joints tested without sealants can always be sealed in the metal joint on the exposed side;
Panel orientations	changes in orientation of panels (vertical or horizontal) are not allowed;
Change of the panel dimensions	decrease in the panel width is allowed;
	increase in the panel width is allowed up to + 20% of tested modular width;
	increase in the thickness of panel core is allowed;
Span length	decrease in distance between supports is allowed (< 3 000 mm);
	increase in distance between supports is allowed (> 3 000 mm) in compliance with clause No. 4.2 of this document;
Length of assembly	in case of vertically oriented panels the length (width) of the wall can be freely increased;
Fixing to the supporting construction	it is allowed to use independent method of fixation to secure both panel facings;
	amount of fixings shall be in accordance with 6.1.2 of the EN 15254-5: 2018 (for the increased span length over tested 3000 mm); the load per fastener imposed by the changes made shall be less than that in the test;
	increase in amount of fixings screws is allowed;
	wall can be fixed to the other supports than tested under the following conditions: - the support structure has at least the same fire resistance classification time for loadbearing capacity (R) as the panel assembly has for insulation and/or integrity; - the fixing system has the same loadbearing capacity (R) in the support structure as in the frame used in the reference test; - the fixation area can also be protected with thermal insulation. If such thermal insulation is used in the test, thermal insulation with at least the same fire performance shall also be used in end use conditions.

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, standards and regulations are not changed.

Approved by:

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