FIRES
The Experts On Fire Safety

CLASSIFICATION OF FIRE RESISTANCE
FIRES-CR-165-19-AURE

Non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 100 mm thick with PIR core

Reg. No. 041/S-159

The Experts on Fire Safety

CLASSIFICATION OF FIRE RESISTANCE

with extended field of application

FIRES-CR-165-19-AURE

Name of the product: Non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 100 mm thick with PIR core

Sponsor:
Isopan Est
Soseaua de Centura 109
Ilfov, Popesti-Leordeni 077160
Romania

Prepared by:
FIRES, s.r.o.
Notified Body No. 1396
Osloboditeľov 282
059 35 Batizovce
Slovak Republic

Task No.: PR-19-0272
Date of issue: 07. 08. 2019

Reports: 2
Copy No.: 2

Distribution list:
Copy No. 1 FIRES, s. r. o., Osloboditeľov 282, 059 35 Batizovce, Slovak Republic
Copy No. 2 Isopan Est, Soseaua de Centura 109, Ilfov, Popesti-Leordeni 077160, Romania

This report includes accreditation mark SNAS with additional mark ILAC-MRA. 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), DakkS (Germany) or BMWA (Austria). Up to date list of ILAC-MRA signatories is on http://ilac.org/ilac-mra-and-signatories/. FIRES, s.r.o. Batizovce is full member of EGOLF also, more information www.egolf.org.uk. Classification reports with extended field of application issued by FIRES, s.r.o. are valid in United Arab Emirates based on list of laboratories approved by United Arab Emirates Ministry of Interior Civil Defence (up-to-date list is available on: www.dcd.gov.ae/eng/).

FIRES, s.r.o., Osloboditeľov 282, 059 35 Batizovce, Slovak Republic
tel. 00421 52 285 1611, www.fires.sk
Notified Body No. 1396, Approved Body No. SK01, Member of EGOLF

1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 100 mm thick with PIR core in accordance with the classes given in EN 13501-2: 2016.

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.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

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

2.2 PRODUCT DESCRIPTION

The product is a non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 100 mm thick with PIR core and symmetrical construction of panels' joint. Panels are used with butted joint in the core material.

Dimensions

modular panel width	1000 mm
overlap of joints	15,0 mm

Panel core

Polyisocyanurate (PIR) rigid foam (manufacturer: Isopan), with bulk density of 40,0kg.m^{-3}.

Panel covering

Covering of the panels is made of interior and exterior steel sheet 0,50 mm thick, grade of steel S250GD with polyester coating 25 µm thick, profile geometry: < 5 mm.

Self-adhesive intumescent gasket type Promaseal PL-SK (producer: Promat) with dimensions (40 x 1,8) mm or alternative gasket acc. to cl. 4.3 of this document is glued along the panel edge (panel core) between adjacent panels.

The joints of panels are stitched on the internal (exposed) wall face by steel self-drilling screws (4,8 x 19) mm spaced each 200 mm.

According to sponsor declaration same product is manufacturing in following production sites:

Isopan Est SRL, Şos. De Centură nr 109 - Popeşti Leordeni, Judeţul Ilfov, Romania
Isopan S.p.A, Via S.P. Morolense 03010 Patrica, Italy
Isopan S.p.A, Via Giona nr 5 - Trevenzuolo (VR), Italy
Isopan Iberica SL, 431 20 Constanti – Tarragona, Spain
Isopan Deutschland GmbH, Kreisstr. 48, Germany, 06193 Wettin-Löbejün OT Plötz, Allemagne, Germany
Isopan Rus, Ulitsa Aleksandrova 51, Volzhskiy, Volgogradskaya oblast, Russia.
Isocindu, Avenida Libre Comercio No. 137 III, Puerto Interior Silao, Santa Fe de la Purisima, Mexico

Copy of declaration is stored in archive of FIRES, s.r.o.

More detailed information about product construction is shown in test report specified in report [1].

2.3 PRODUCT FIXATION

Each sandwich panel is fixed to two horizontal supports by means of steel self-drilling screws (5,5/6,3 x 135) mm with washers with EPDM sealing placed in distance 100 mm from panel edges.

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

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 Est, Popesti-Leordeni, RO	FIRES-ER-057-19-NURE	07. 08. 2019

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

Classification of partition has been carried out in accordance with EN 13501-2: 2016, cl. 7.5.2.
Classification of external wall has been carried out in accordance with EN 13501-2: 2016, cl. 7.5.3.

4.2 CLASSIFICATION

4.2.1 CLASSIFICATION OF PARTITION

The element, **Non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 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 wall face only):	Maximum allowed span
E 20 / EI 20 / EW 20	7 500 mm
E 30 / EI 30 / EW 30	3 000 mm

Note: Internal face of wall represents face with stitched joints of panels. Classification is valid for fire action on both faces under condition that the joints of panels are stitched on the both wall faces.

4.2.2 CLASSIFICATION OF EXTERNAL WALL

The element, **Non-loadbearing wall made of vertically oriented sandwich panels type Isobox, 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 15 (i→o) [1)] / EI 15 (i→o) [1)] / EW 20 (i→o)	7 500 mm
E 30 (i→o) / EI 30 (i→o) / EW 30 (i→o)	3 000 mm

Note: Internal face of wall represents face with stitched joints of panels. Classification is valid for fire action on both faces under condition that the joints of panels are stitched on the both wall faces.

1) EN 13501-2, paragraph 7.5.3.4 does not define classes E 20 (i→o) and EI 20 (i→o), but the product meets criteria of integrity and insulation during 20 minutes

4.3 FIELD OF APPLICATION

This classification is valid for the following end use applications:

Metal facings	changes in thickness of metal facing is allowed up to ± 0,2 mm;
	changes in geometry of metal facing is allowed in the range 0 mm to 5 mm;
	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;
	increase in the depth of tongue and groove within the panel core is allowed but no decrease;
	changes in thickness of the tongue and groove within the panel core are allowed up to ± 50 %, but minimum thickness is 20 mm;
	the self-adhesive intumescent gasket type Promaseal PL-SK according to clause 2.2 of this document can be replaced by other gasket of the same type;
	the joints of panels are stitched on the internal (exposed) wall face by steel self-drilling screws (4,8 x 19) mm spaced each 200 mm;
Panel orientations	changes in orientation of panels (vertical or horizontal) are not allowed;
Change of the panel dimensions	decrease in the panels width is allowed;
	increase in the panels 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	the length (width) of the wall can be freely increased;
Fixing to the supporting construction	wall is fixed to the horizontal supports which are located in compliance with clause No. 4.2 of this document by steel self-drilling screws (5,5/6,3 x 135) mm;
	amount of fixings for increased span length shall be in accordance with 6.1.2 of the EN 15254-5: 2018;
	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 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:

Ing. Štefan Rástocký
leader of the testing laboratory

Signed:

Dávid Šubert
technician of the testing laboratory