# CLASSIFICATION OF FIRE RESISTANCE
# FIRES-CR-047-13-AUPE

**Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL", 100 mm thick**

Reg. No. 041/S-159

The Experts on Fire Safety

# CLASSIFICATION OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2: 2007 + A1: 2009

## with direct field of application

## FIRES-CR-047-13-AUPE

| | |
|---|---|
| **Name of the product:** | Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL", 100 mm thick |
| **Sponsor:** | Marcegaglia Poland Sp. z o.o.<br>Kaliska 72<br>46-320 Praszka<br>Poland |
| **Prepared by:** | FIRES, s.r.o.<br>Approved Body No. SK01<br>Osloboditeľov 282<br>059 35 Batizovce<br>Slovak Republic |
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## 1. INTRODUCTION

This classification report defines the resistance to fire classification assigned to element, Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL", 100 mm thick, in accordance with the procedures given in EN 13501-2: 2007 + A1: 2009.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1 GENERAL

Product, Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL" , 100 mm thick, is defined as a non-loadbearing wall with fire separating function used as either partition or external wall acc. to EN 14509.

### 2.2 PRODUCT DESCRIPTION

Product is a non-loadbearing wall made of sandwich panels "Marcegaglia Parete Labirynto PGB PL" with polyisocyanurate core, 100 mm thick – horizontal orientation of the panels.

**Dimensions**

| | |
|---|---|
| Width of panel | 1000 mm |
| panel thickness | 100 mm |
| overlap of joints | 14,3 mm |

The joints of the panel are stitched from both sides by steel self-drilling screws SL2-T-A14-4,8 x 20 spaced 650 mm.

More detailed information about product construction is shown in the test report No. FIRES-FR-032-12-AUNE, issued by FIRES, s.r.o., Batizovce, Slovak Republic on 12. 03. 2013.

### 2.3 PRODUCT FIXATION

Panels are fixed to the steel profiles by steel self-drilling screws SDT14-A19 5,5 x 142, 3 pieces on each panels edge.

More detailed information about product construction is shown in test report [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 |
|---|---|---|---|---|---|
| [1] | FIRES, s.r.o., Batizovce, SK | Marcegaglia Poland Sp. Z o.o., Praszka, Poland | FIRES-FR-032-13-AUNE | 05. 03. 2013 | EN 1364-1: 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 1364-1: 1999 | applied load | | – |
| | supporting construction | | vertically steel L - profiles (60 x 60 x 4) mm, placed in distance 3000 mm |
| | temperature curve | | standard temperature/time curve |
| | loadbearing capacity | | – |
| | integrity | cotton pad | 41 minutes no failure |
| | | gap gauges | 41 minutes no failure |
| | | sustained flaming | 41 minutes |
| | thermal insulation | average temperature | 36 minutes |
| | | maximum temperature | 20 minutes |
| | radiation | | 41 minutes no failure |
| | achieved deflection 100 mm | | 16 minutes |
| | mechanical action | | – |

[1] The fire test was terminated in the 42nd 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 classes defined in clause 7.5.2 of EN 13501-2: 2007 + A1: 2009.
Classification of external wall has been carried out in accordance with classes defined in 7.5.3 of EN 13501-2: 2007 + A1: 2009.

### 4.2 CLASSIFICATION

#### 4.2.1 CLASSIFICATION OF PARTITION

The element, Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL", 100 mm thick, is classified according to the following combinations of performance parameters and classes as appropriate:

**Fire resistance classification:**
**E 30 / EI 20 / EW 30**

#### 4.2.2 CLASSIFICATION OF EXTERNAL WALL

The element, Wall made of self-supporting double skin metal faced insulating panels with PIR core, type "Marcegaglia Parete Labirynto PGB PL", 100 mm thick, is classified according to the following combinations of performance parameters and classes as appropriate:

**Fire resistance classification:**
**E 30 (i « o) / EI 15 (i « o)* / EW 30 (i « o)**

* EN 13501-2, paragraph 7.5.3.4 does not define class EI 20 but the product meets criteria of 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 ± 50%; |
| | changes in geometry of metal facing is allowed; |
| | changes in type of material of metal facing is allowed for all grades of tested normal steel and stainless steel;<br>profile geometry of facing is valid for any profile change;<br>valid for all coatings and colors applied on exposed wall side; |
| Core | changes in type of core is not allowed; |
| | changes in density of bulk of PIR core are allowed up to ± 10%; |
| | changes in chemical system and blowing agent are not allowed; |
| 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 is allowed but no decrease; |
| | changes in thicknesses in the tongue and groove are allowed up to ± 50 %; |
| | joints shall be stitched from both sides by steel self-drilling screws SL2-T-A14-4,8 x 20 in spacing of 650 mm; |
| Panel orientations | changes in orientation of panels (vertical or horizontal) are allowed; |
| Change of the dimensions | decrease in the panels width is allowed; |
| | increase in the panels width is allowed up to 1 200 mm; |
| | increase in the thickness of panel core is allowed; |
| | in case of wall made of vertically oriented sandwich panels:<br>- the length (width) of the wall can be increased;<br>- the height of the wall can be increased above 3000 mm but maximal up to 4000 mm under condition, that fire resistance classification shall be reduced to **EI15** minutes and expansion allowances are increased pro-rata; |
| | in case of wall made of horizontally oriented sandwich panels:<br>- the height of the wall can be increased;<br>- the length (width) of the wall can be increased above 3000 mm but maximal up to 4000 mm under condition, that fire resistance classification shall be reduced to **EI15** minutes and expansion allowances are increased pro-rata; |
| Span length | decrease in distance between supports is allowed (< 3 000 mm); |
| | increase in distance between supports is allowed (> 3 000 mm maximal up to 4000 mm) under conditions stated hereinbefore under point: Change of the dimensions; |
| Fixing to the supporting construction | wall is fixed to the steel supports with the same or greater fire resistance than the product fire resistance;<br>each of panels is fixed to 2 steel bearing supports<br>- oriented vertically (in case of horizontal installation of panels),<br>- oriented horizontally (in case of vertical installation of panels),<br>by steel self-drilling screws minimal ∅ (5,5 x 142) mm, 3 pieces on each panels edge.<br>Increase in amount of self-drilling screws 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:

Ing. Štefan Rástocký
leader of the testing laboratory

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Signed:

Silvia Zajacová
technician of the testing laboratory