

Classification Report



Fire Resistance Laboratory

APPLICANT:

METALLEMPOR
TH. MAKRIS S METALLEMPORIKI TH. MAKRIS, S.A.

CLASSIFICATION OF THE FIRE RESISTANCE ACCORDING TO STANDARD EN 13501-2:2016

- Specimen: non-loadbearing wall
 - Manufacturer: METALLEMPORIKI TH. MAKRIS, S.A.
 - Reference: "MINERAL WOOL WALL COVERING PANEL 120mm"

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**FIRE RESISTANCE CLASSIFICATION ACCORDING TO
EN 13501-2:2016**

Applicant: METALLEMPORIKI TH. MAKRIS, S.A.
6th km Larissa-Sikurio
41500 - Larissa
GREECE

Issuing laboratory: AFITI-LICOF
Notified body nr.: 1168

Building element: Non-loadbearing wall

The information marked with this symbol (⊙) has been provided by the applicant.
⊙Manufacturer: METALLEMPORIKI TH. MAKRIS, S.A.
⊙Reference: "MINERAL WOOL WALL COVERING PANEL 120mm"

Classification Report Nr.: 9647/18-2
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1. AIM OF THE REPORT

This Classification Report defines the Fire Resistance Classification assigned to the non-loadbearing wall, designated by the applicant as “MINERAL WOOL WALL COVERING PANEL 120mm” according to the procedures established in the Standard EN 13501-2:2016 *Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services.*”

2. DETAILS OF ELEMENT AS CLASSIFICATION OBJECT

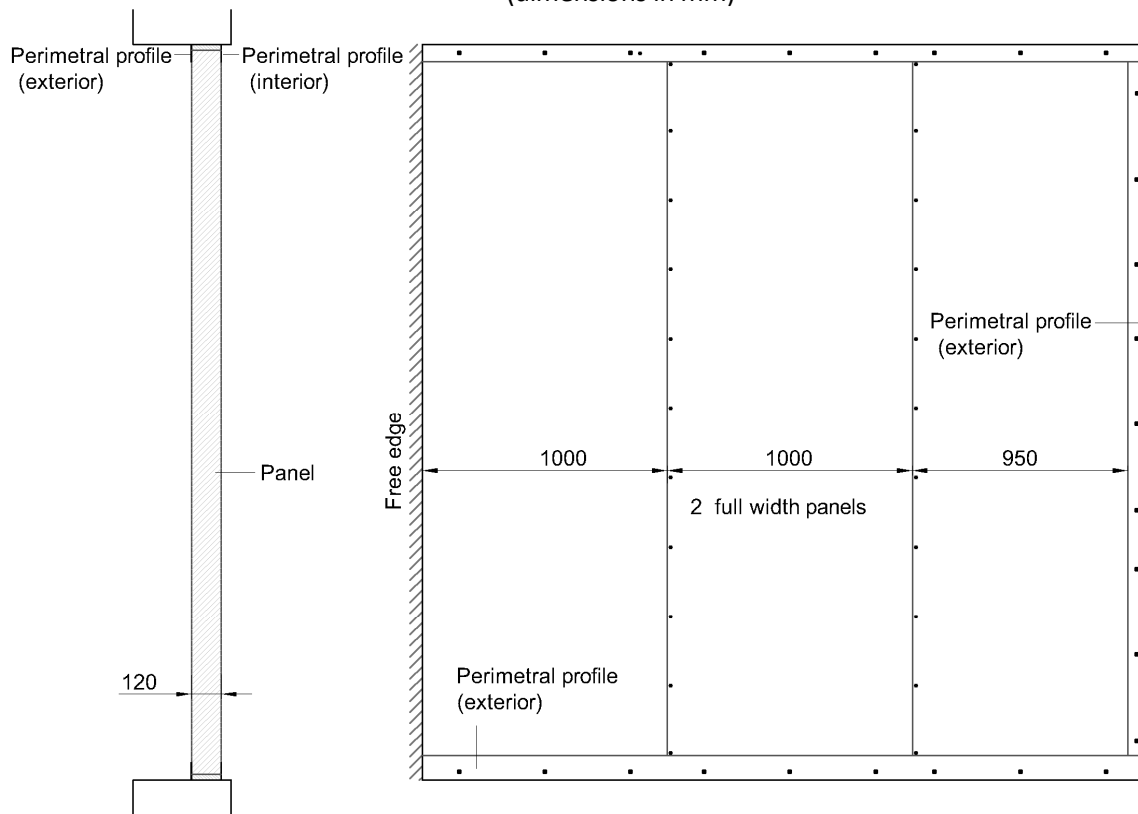
2.1. TYPE OF FUNCTION

The element “MINERAL WOOL WALL COVERING PANEL 120mm” is defined as “Non-loadbearing wall”.

2.2. DESCRIPTION

- Nominal dimensions of the assembly (mm): 3.000 (height)× 2.950 (width) × 200 (thickness).
- Basic description of the assembly.... wall compound by three metal sandwich panels and perimetral fixing profiles

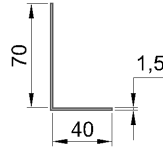
Figure 1 – Test setup
(dimensions in mm)



- Perimetral profile (exterior):
 - Material:..... metal
 - Thickness (mm):..... 1,5
 - Shape (mm):..... "L"
 - Section dimensions(mm):..... 70 × 40 (see figure 2b)
 - Length: 1050mm,3 profiles per fixed edge
 - Location:..... see figures 1and 3



Figure 2 – Metal profil
(dimensions in mm)



• Prefabricated panels:

- Type:..... sandwich
- Dimensions (mm): 2.950 (length) × 1.050 (width) × 120 (thickness)
- Approximate weight of the panel (kg): 68
- Number:..... 3 (2 of whole width and 1 cut, see figure 1)
- Composition:..... two faces of steel sheet (⊙thickness of 0,5 steel sheet plus 0,5mm polyester coating) and mineral wool between them (⊙mineral wool with a density of 100kg/m³.)
- Distribution: see figure 1
- Joint between panels: groove and tongue joint, with fireproof sealant and self-tapping screws

Figure 3 – Perimetral fixation of the specimen

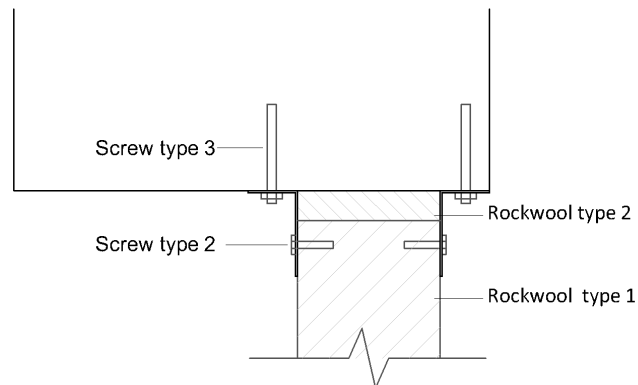
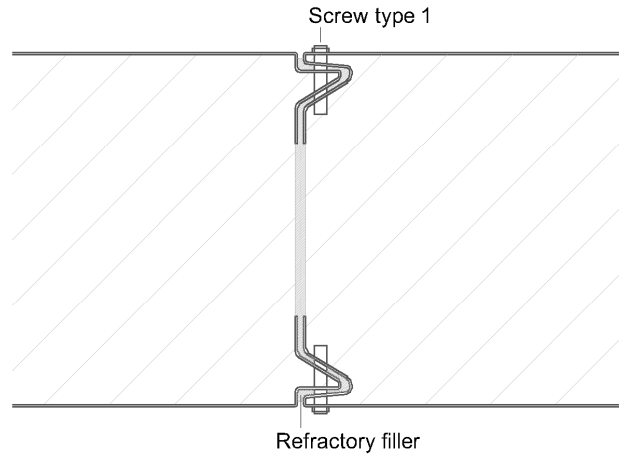


Figure 4 – Joint between panels

Sketch supplied by the applicant and checked by the laboratory



- Fireproof sealant:
 - Brand:..... SIKA (marked on the product)
 - Reference:..... Sikacryl-620 FIRE White (marked on the product)
 - Location: filling the whole joints between the panels and with the perimetral profile (see figure 4)
- Screws:
 - Type 1:
 - Type: self-tapping screw
 - Dimensions (mm):..... $\varnothing 4,2 \times 21$
 - Location:..... in the joints between panels
 - Average distance between fixings (mm): 300
 - Type 2:
 - Type: self-tapping screw
 - Dimensions (mm):..... $\varnothing 6,2 \times 30$.
 - Location:..... on all the perimeter of the angles fixing the panels to them (see figure 1)
 - Average distance between fixings (mm): 430
 - Type 3:
 - Type: expansion metal anchor M8 x 75-A2
 - Dimensions (mm):..... $\varnothing 8 \times 75$
 - Location:..... fixing the angles to the test frame
 - Average distance between fixings (mm): 300

• Rockwool (*)

- Type 1:
 - Reference: ☉ Fibrangeo B-001
 - Density (kg/m³): 110(☉100 nominal)
 - Moisture content (% in weight):..... 0,5
 - Binder content (%in weight): 4,8
 - Location:..... inside the panels and in the groove of the panel at the free edge.

(*) The rockwool properties have been assessed using the samples of material supplied by the Applicant for the test.

- Type 2:
 - Reference: Fibrangeo B-571 (marked on the product)
 - Density (kg/m³): 161 (☉175 nominal)
 - Moisture content (% in weight):..... 0,36
 - Binder content (%in weight): 2,6
 - Location:..... all along the perimeter of the fixed edges: between the panels and the test frame

• Glue

- Components: 2
- References: ☉ VORAMER AA 3042 and VORACOR CE 620
- Location: between the mineral wool and the steel sheets inside the panels

3. TEST REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1.- TESTS PERFORMED

Test reports

Issuing laboratory	Applicant	Report	Test method
AFITI-LICOF Camino del Estrechillo, 8 <u>28500 – ARGANDA DEL REY</u> (Madrid)	METALLEMPORIKI TH. MAKRIS, S.A. 6 th km Larissa-Sikurio 41500 - Larissa GREECE	Nr.: 9647/18 Test date: 1 st -Feb-19	EN 1364-1:2015 UNE-EN 1363-1:2015
Notified Body nr.: 1168			

Conditions of exposure

Temperature curve / time:	Standard
Nr. of exposed sides:	One (symmetrical solution)



Test results

		Specimen nr.
		9647A
Integrity (F)		240 minutes^(F)
Cotton pad		240 minutes ^(F)
Gap gauges Ø 6 mm		240 minutes ^(F)
Gap gauges Ø 25 mm		240 minutes ^(F)
Sustained flames > 10 s		240 minutes ^(F)
Thermal Insulation (I)		240 minutes^(F)
Average temperature		240 minutes ^(F)
Maximum temperature		240 minutes ^(F)

(F): End of the test without failure in this criterion.

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. CLASSIFICATION STANDARD

This classification has been carried out in accordance with the clause 7.5.2 of the standard EN 13501-2:2016.

4.2. CLASSIFICATION

The product “MINERAL WOOL WALL COVERING PANEL 120mm” is classified according the following combination of performance parameters and classes.

Fire Resistance Classification

EI 240

The following classifications are allowed:

E	-	20	30	-	60	90	120	-	-
EI	15	20	30	45	60	90	120	180	240
EW	-	20	30	-	60	90	120	-	-

4.2. FIELD OF APPLICATION

According to the chapter 13 of the Standard EN 1364-1:2015, the tested element has the following field of application:

The classification obtained is also valid for the following modifications of the specimen characteristics without the need for further testing.



Characteristics	Permitted modification	Reference value ⁽¹⁾
– Wall height	<u>Reduction</u> without limit <u>Increase</u> up to 4 m provided that the expansion tolerances increase proportionally.	Height: 3.000 mm
– Wall thickness	Increase	200 mm (including perimetral profile)
– Thickness of the constituent materials	Increase	According to test report
– Distance between the centers of the fixings	Reduction	Panels-profile: according to test report. Profile-test frame: according to test report.
– Dimensions of the panels	Reduction of the linear measures without reducing the thickness.	Height: 2.950 mm Width: 1.050 mm Thickness: 120 mm
– Number of horizontal joints	Inclusion is not permitted	Without horizontal joints
– Wall width	Increase	3.000 mm
– Accessories in the division	Inclusion is not permitted	Without accessories
– Number of vertical joints	Allowed inclusion of the vertical joints same as the tested.	2 vertical joints as described in the Test Report.
– Exposure	Result valid for exposures on both sides	Symmetrical

(1) Reference values of the tested specimen on the basis of which the permitted modifications could be carried out.

5.- LIMITATIONS

This report does not represent type approval or certification of the product.

Arganda del Rey, 14th of February of 2019



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Signed: Carlos Burón Alonso
Technical Director
Fire Resistance Laboratory

