ZAG

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DEPARTEMENT FOR BUILDING PHYSICS

Fire Laboratory and Fire Engineering

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Member of egolf - European Group of Organisations for Fire Testing, Inspection and Certifications

Ljubljana, 4. 11. 2021

Replacement of Classification report
No. 891/21-530-5 dated 13. 10. 2021

CLASSIFICATION REPORT
No. 891/21–530–7

Classification of reaction to fire in accordance with Commission delegated Regulation (EU) 2016/364 and with SIST EN 13501-1:2019 for a product

Mineral wool wall cover panel W.MW 5.15

Orderer:	**Metallemporiki – Th. Makris S.A., 6th km Larissa-Sikuro, GR-41004 Larissa**
Order/contract:	**1042/20211 dated 24. 9. 2021**
Responsible investigator:	**Robert Umek**
Head of laboratory:	**Friderik Knez, B. Sc.**
Director:	**Assist. Prof. Dr. Aleš Žnidarič**

1. Introduction

This classification report defines the classification assigned to **Mineral wool wall cover panel W.MW 5.15** in accordance with the procedures given in Commission delegated Regulation (EU) 2016/364 and in SIST EN 13501-1:2019 (identical to EN 13501-1:2018).

Note: the replacement of the classification report due to error in metal thickness measurement.

1.1 General:

Sandwich panel W.MW 5.15 is made of two hot galvanized and preprinted steel sheet with the core of mineral wool with the nominal density 100 kg/m^3 (manufactured by Fibran). External and internal steel sheets are low profiled. Steel sheets are coated on the outer side and glued to mineral wool on the inner side.

The product is designed for non-loadbearing walls.

1.2 Product description:

Mineral wool (C):

(C) Nominal density of the product 100 kg/m^3

Mineral wool manufactured by Fibran

Measured density of the product was 103,4 kg/m^3.

Tested thickness: 50 mm and 150 mm.

Adhesive: (B)

VORAMER AA 3042" Polyol and 'VORACOR CE 620" Isocyanate

Amount of wet application 170 g/m^2.

Colour: brown.

Steel sheet: (A)

Hot galvanised and painted sheet steel 0,5 mm thick.

(A_1) Astar (paint): 25 µm.

Measured thickness 0,53 mm.

2. Test reports and test results in support of classification:

2.1 Test reports:

Laboratory	Name of sponsor	Report No.	Test method
ZAG Ljubljana	Metallemporiki S.A	P 829/21-530-4	SIST EN 13823:2020
ZAG Ljubljana	Metallemporiki S.A	P 829/21-530-1	SIST EN ISO 1716:2018
ZAG Ljubljana	Metallemporiki S.A	P 829/21-530-2	SIST EN ISO 1716:2018
ZAG Ljubljana	Metallemporiki S.A	P 829/21-530-3	SIST EN ISO 1716:2018

2.2 Test results:

Test method	Exposure condition parameter	No. of tests	Results	
			Continuous parameter mean	Compliance with parameter
SIST EN 13823:2020	$FIGRA_{0,2\ MJ}$ (W/s) $FIGRA_{0,4\ MJ}$ (W/s)	3/6*	1,4* 1,4*	yes -
	LFS < edge		-	yes
	THR_{600s} (MJ)		0,4*	yes
	SMOGRA (m^2/s^2)		0*	-
	TSP_{600s} (m^2)		16,1*	-
	Flaming droplets/particles		No*	-
SIST EN ISO 1716:2018 (adhesive)	PCS [MJ/kg]	3	28,2744	
	PCS [MJ/m2]		3,958	yes
SIST EN ISO 1716:2018 (MW)	PCS [MJ/kg]	3	0,8434	yes
SIST EN ISO 1716:2018 (paint)	PCS [MJ/kg]	3	22,5555	
	PCS [MJ/m2]		0,5639	yes

* Average of three parallels tested on the specimen, which gave the worst results on SBI testing for each parameter. Testing was performed on 3 parallels for each of four different combinations of thicknesses and densities of mineral wool.

Calculated PCS [MJ/m^2] for single component of the product:

Component		weight per unit area [kg/m^2]	PCS of single component [MJ/kg]	Calculated PCS [MJ/m^2]
A	outer steel sheet[1]	4,53	0	0,0000
A_1	paint	0,025	22,5555	0,5639
B	adhesive	0,140	28,2744	3,958
C	mineral wool (d = 50 mm)[1]	10	0,8434	8,434
B	adhesive	0,140	28,2744	3,958
A_1	paint	0,025	22,5555	0,5639
A	inner steel sheet[1]	4,53	0	0,0000
	total:	23,99		19,175

[1] calculated PCS value is the highest for the thinnest panel

Gross calorific value **PCS** of the whole products per mass unit is:
PCS [MJ/kg] = PCS [MJ/m^2] / mass [kg/m^2] = 23,99 MJ/m^2 / 19,175 kg/m^2 = **1,25 MJ/kg**

Steel sheet (A) is **substantial component** of the product: PCS = **0 MJ/kg**

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Mineral wool (C) is **substantial component** of the product: PCS = **0,84 MJ/kg**.

Colour the outer surface of steel sheet (A_1) is **external non-substantial component** of the products: PCS = **0,56 MJ/m^2**.

Adhesive (B) are **inner non-substantial component** of the product: PCS = **3,96 MJ/m^2**.

3. Classification and field of application:

3.1 Reference:

This classification has been carried out in accordance with Commission delegated Regulation 2016/364/EU and SIST EN 13501-1:2019.

Standard SIST EN 13501-1:2019 is identical to EN 13501-1:2018.

3.2 Classification:

3.2.1 The format of the reaction to fire classification is:

The product **Mineral wool wall cover panel W.MW 5.15** in relation to its reaction to fire behaviour is classified: A2

The additional classification in relation to smoke production is: s1

The additional classification in relation to flaming droplets/particles is: d0

Fire behaviour		Smoke production			Flaming droplets	
A2	-	s	1	,	d	0

Reaction to fire classification: A2-s1, d0

3.3 Field of application:

The classification report is valid for product as described under section 2 for:

Metal facing:

- valid for thickness of metal facing excluding organic coatings between 0,5 mm and 1,0 mm,
- valid for flat or light profiling up to 5 mm,
- and valid for other coating with PCS value lower than tested.

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Joint design:

- valid for all types of joints.

Adhesive:

- valid for an alternative adhesive and different quantity, with calorific value ≤ to that tested (expressed as PCS in MJ/m^2)

MW insulating core:

- valid for density between 85 kg/m^3 and 115 kg/m^3,
- valid for lamellas only,
- valid for change in the number of joints between lamellas,
- valid for same type of fibre with same PCS or lower of the tested binder.

Thickness of panel:

- valid for all thicknesses from 50 mm and greater.

Warning

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

	Name	Signature	Date
Person undertaking classification:	Robert Umek		4. 11. 2021
Person authorising this report:	Nataša Knez, Ph.D.		4. 11. 2021

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