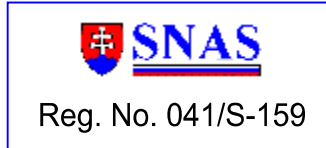


CLASSIFICATION OF REACTION TO FIRE

FIRES-CR-138-13-AUPE

Self-supporting double skin metal faced insulating panels with PIR core, type THERMOWALL® KOMBI

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CLASSIFICATION OF REACTION TO FIRE IN ACCORDANCE WITH EN 13501-1 + A1: 2009 with direct field of application

FIRES-CR-138-13-AUPE

Name of the product: Self-supporting double skin metal faced insulating panels with PIR core, type THERMOWALL® KOMBI

Sponsor: Metecno Bausysteme GmbH
Am Amselberg 1
D-99444 Blankenhain
Germany

Prepared by: FIRES, s.r.o.
Approved Body No. SK01
Osloboditeľov 282
059 35 Batizovce
Slovak republic

Notified Body No.: 1396

Project No.: PR-13-0233

Date of issue: 11. 10. 2013

Reports: 3

Copy No.: 2

Distribution list:

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1. INTRODUCTION

This classification report defines the reaction to fire classification assigned to element: Self-supporting double skin metal faced insulating panels with PIR core, type THERMOWALL® KOMBI in accordance with the procedures given in EN 13501-1 + A1: 2009.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element Self-supporting double skin metal faced insulating panels with PIR core, type THERMOWALL® KOMBI is defined as an insulating panel according to EN 14509: 2006/ AC: 2008.

2.2 PRODUCT DESCRIPTION

Product is insulating panels with PIR foam core and both side faced with steel sheets.

Core: rigid polyisocyanurate foam type Metecno System 11 (BASF Elastopir 1132/501), density $38 \pm 4 \text{ kg.m}^{-3}$ (manufacturer: BASF Polyurethanes GmbH, Germany).

Steel sheets: - exterior steel sheet 0,5 mm thick, grade of metal S280GD (manufacturer: ArcelorMittal, Belgium) coated on the back-side with epoxy resin-based back-coats 7 μm thick and on the top-side with polyester based top coat 25 μm thick (primer 5 μm thick and finishing coats 20 μm thick), profile geometry: flat;

- interior steel sheet 0,4 mm thick, grade of metal S280GD (manufacturer: ArcelorMittal, Belgium) coated on the back-side with epoxy resin-based back-coats 7 μm thick and on the top-side with polyester based top coat 25 μm thick (primer 5 μm thick and finishing coats 20 μm thick), profile geometry: flat.

Minimum thickness of panels is 85 mm.

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	Metecno Bausysteme GmbH, Germany	FIRES-RF-068-13-AUNE	12. 06. 2013	EN ISO 11925-2: 2010 / AC: 2011
[2]	FIRES, s.r.o., Batizovce, SK	Metecno Bausysteme GmbH, Germany	FIRES-RF-074-13-AUNE	13. 02. 2013 04. 06. 2013	EN 13823: 2010

[1] - [2] test specimens were conditioned according to EN 13238 before the reaction to fire tests

[1] specimens were cut in longitudinal and crosswise direction and tested to the main surface, bottom edge and to the bottom edge in the middle of insulation thickness (specimens turned 90°), edges unprotected

[2] tested thickness of tested panels – 100 mm



3.2 TEST RESULTS

Test report number and test method	Characteristic value	Number of tests	Results	
			Continuous parameter - mean (m)	Compliance with parameters
[1] EN ISO 11925-2 surface/edge attack ¹⁾ (exposure time 30 s)	$F_s \leq 150 \text{ mm}$	18	(-)	compliant
flaming droplets/particles	ignition of the paper		(-)	non-compliant
[2] EN 13823	FIGRA _{0,2MJ}	3	22,2	(-)
	FIGRA _{0,4MJ}		19,3	(-)
	LFS<edge of specimen THR _{600s}		(-)	compliant
	SMOGRA (m ² /s ²) TSP600s (m ²)		1,7	(-)
flaming droplets/particles		3,6	(-)	
		47,6	(-)	
		no flaming droplets/particles		non-compliant

¹⁾ Specimens main surface (from exterior and interior steel sheet face), bottom edge (bottom part of specimens from exterior and interior steel sheet face) and specimens middle of the insulation thickness with specimens turned 90° were exposed to flame.

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with Clause 11.6 of STN EN 13501-1 + A1: 2010.

4.2 Classification

The product, Self-supporting double skin metal faced insulating panels with PIR core, type THERMOWALL® KOMBI, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

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

d0

The format of the reaction to fire classification for construction products excluding floorings is:

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

Reaction to fire classification: B – s1, d0



4.3 FIELD OF APPLICATION

This classification is valid for the following end use applications:

- i) external walls (classification valid for both sides);
- ii) partitions (classification valid for both sides);
- iii) ceilings (classification valid for both sides);
- iv) characteristic product orientation: vertical or horizontal, with front face to free area;
- v) characteristic position in relation to other products: with no product directly after or before it;
- vi) edges unprotected with flashings, or all end use applications of edges and corners protections are permitted.

This classification is also valid for the following product parameters:

Parameter	Factors	Validity of test / tests
Metal facings	Grade of metal	Valid for all grades of tested metal type
	Thickness of metal facing excluding organic coatings	Thickness of 0,4 mm and up to 0,8 mm
	Profile geometry of inside facing	All types of flat or light profile
	Surface coating – tested face	All coatings in the range (0 – 4) MJ/m ² or all coatings with PCS values lower than that tested within manufacturing tolerances
	Colour of coating	All colours
Joint design		Valid within normal tolerances, not valid for changes of shape or configuration
Seals and gaskets	Seals and gaskets	no gaskets and seals
Insulating core	Chemical composition	Same chemical system of PIR and same blowing agent
	Density	Valid for tested density 38 kg.m ⁻³ ± 15 %
Thickness of panel		Minimum thickness of panels 85 mm
Orientation of panels	Vertical or horizontal application of sandwich panels	Horizontally or vertically installed all panels and ceiling applications
Metal corner flashings		Results are valid for any metal flashing of greater thickness or dimension used in practice as was tested
Fixings for metal flashings	Standard spacing is 400 mm	Valid for fixing spacing of 400 mm or less
Protection over cut edges	No flashings in EN ISO 11925-2	All end use applications

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



Signed:

Ing. Samuel Skokan
technician of the testing laboratory