

## **CLASSIFICATION OF REACTION TO FIRE FIRES-CR-135-12-AUPE**

**Self-supporting double skin metal faced insulating panels,  
Ondatherm 1001TSF AM03 0,5/0,5mm**



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

## FIRES-CR-135-12-AUPE

**Name of the product:** Self-supporting double skin metal faced insulating panels,  
Ondatherm 1001TSF AM03 0,5/0,5mm

**Sponsor:** ArcelorMittal Construction, Deutschland GmbH  
Münchener Strasse 2  
06796 Sandersdorf-Brehna  
Germany

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

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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, Ondatherm 1001TSF AM03 0,5/0,5mm in accordance with the procedures given in EN 13501-1 + A1: 2009.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1 GENERAL

The element is defined as an insulating panel which is produced according to EN 14509: 2006/AC: 2008.

### 2.2 PRODUCT DESCRIPTION

Product consists of panel with PIR insulating core, both side covered with steel sheets.

Minimal thickness of panel is 40 mm.

#### Core:

rigid polyisocyanurate foam system AM03, density  $(38 \pm 2/-1) \text{ kg.m}^{-3}$  (manufacturer: Bayer GmbH, Germany).

#### Steel sheets:

- exterior steel sheet 0,50 mm thick, grade of metal S350GD+Z275 (manufacturer: ArcelorMittal, France) with PE polyester coat 25  $\mu\text{m}$  thick, RAL 9002, profile geometry: trapezoidal;
- interior steel sheet 0,5 mm thick, grade of metal S350GD+Z275 (manufacturer: manufacturer: ArcelorMittal, France), with PE polyester coat 25  $\mu\text{m}$  thick, RAL 9002, profile geometry: flat.

#### Gaskets:

Iso-Zell PE Schaumstoff TA FR-B 5 mm thick (manufacturer: Iso-Chemie, Aalen, Germany) or, illbruck TN203 PUR Seal 5 mm thick (manufacturer: Tremco illbruck GmbH & Co. KG, Germany); or other tape of the same type or tape with the same or lower PCS that was tested.

## 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	ArcelorMittal Construction, Sandersdorf-Brehna, Germany	FIRES-RF-082-12-AUNE	26. 07. 2012	EN ISO 11925-2: 2010/AC: 2011
[2]	FIRES, s.r.o., Batizovce, SK	ArcelorMittal Construction, Sandersdorf-Brehna, Germany	FIRES-RF-083-12-AUNE	22. 06. 2012	EN 13823: 2010
[3]	FIRES, s.r.o., Batizovce, SK	ArcelorMittal Construction, Sandersdorf-Brehna, Germany	FIRES-RF-084-12-AUNE	22. 06. 2012	EN 13823: 2010
[4]	PTEÚ MV SR, Bratislava, SK	ArcelorMittal Construction, Sandersdorf-Brehna, Germany	54/2012	27. 07. 2012	EN ISO 1716: 2010
[5]	PTEÚ MV SR, Bratislava, SK	ArcelorMittal Construction, Sandersdorf-Brehna, Germany	55/2012	27. 07. 2012	EN ISO 1716: 2010



- [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] – Thickness of panels was 40 mm
  - [3] – Thickness of panels was 100 mm
  - [4] – Tape Iso-Zell PE Schaumstoff TA FR-B
  - [5] – Tape illbruck TN203 PUR Seal
- [1] - [5] – Test specimens were conditioned according to EN 13238 before tests

**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 <sup>1)</sup> (exposure time 30 s)	$F_s \leq 150 \text{ mm}$	18	(-)	compliant
flaming droplets/particles	ignition of the paper		(-)	non-compliant
[2] EN 13823 <sup>2)</sup>	FIGRA <sub>0,2MJ</sub>	3	43,1	(-)
	FIGRA <sub>0,4MJ</sub>		36,2	(-)
	LFS<edge of specimen		(-)	compliant
	THR <sub>600s</sub>		2,7	(-)
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )		4,0	(-)
	TSP600s (m <sup>2</sup> )		60,4	(-)
[3] EN 13823 <sup>2)</sup>	FIGRA <sub>0,2MJ</sub>	3	52,5	(-)
	FIGRA <sub>0,4MJ</sub>		48,9	(-)
	LFS<edge of specimen		(-)	compliant
	THR <sub>600s</sub>		4,4	(-)
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )		6,7	(-)
	TSP600s (m <sup>2</sup> )		85,8	(-)
[4] EN ISO 1716 Iso-Zell PE Schaumstoff TA FR-B <sup>3)</sup>	PCS (MJ/kg)	3	38,751 ± 0,073	(-)
[5] EN ISO 1716 illbruck TN203 PUR Seal <sup>4)</sup>	PCS (MJ/kg)	3	27,587 ± 0,046	(-)

<sup>1)</sup> 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.

<sup>2)</sup> Test specimens which was tested according to EN 13823 included the tape Iso-Zell PE Schaumstoff TA FR-B

<sup>2,3)</sup> Tested type of tape Iso-Zell PE Schaumstoff TA FR-B can be replaced by gasket type illbruck TN203 PUR Seal or gaskets with the same or lower PCS value according to direct field of application stated in EN 14509.



**4. CLASSIFICATION AND FIELD OF APPLICATION**

**4.1 REFERENCE OF CLASSIFICATION**

This classification has been carried out in accordance with clause 11.6 of EN 13501-1 + A1: 2009.

**4.2 CLASSIFICATION**

The product, Self-supporting double skin metal faced insulating panels, Ondatherm 1001TSF AM03 0,5/0,5mm, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s2

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	2	,	d	0

**Reaction to fire classification: B – s2, d0**



### 4.3 FIELD OF APPLICATION

This classification is valid for the following end use applications:

- i) external walls (classification valid from interior side);
- ii) partitions (classification valid from interior side);
- iii) ceilings (classification valid from interior side);
- 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	Tested thickness and up to + 100% of the tested thickness
	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 <sup>2</sup>
	Colour of coating	All colours
Joint design		Valid within normal tolerances, not valid for changes of shape or configuration
Gaskets		Tested type of tape and gaskets with the same or lower PCS value
Insulating core	Chemical composition	Same chemical system of PIR and same blowing agent
	Density	Valid for ± 15 % of tested density
Thickness of panel		Minimum thickness of panels 34 mm
Orientation of panels	Vertical or horizontal application of sandwich panels	Horizontally or vertically installed all panels and ceiling applications
Metal corner flashings		All end use flashings of same material as that tested and of at least the same width and thickness
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

