

CLASSIFICATION OF REACTION TO FIRE

FIRES-CR-082-23-AUPE

**Self-supporting double skin metal faced insulating panels
Ondatherm 1003, PRT Hexacore AMC01 (PIR-Foam)**

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CLASSIFICATION OF REACTION TO FIRE IN ACCORDANCE WITH EN 13501-1: 2018

with direct field of application

FIRES-CR-082-23-AUPE

Name of the product: Self-supporting double skin metal faced insulating panels
Ondatherm 1003, PRT Hexacore AMC01 (PIR-Foam)

Sponsor: ArcelorMittal Construction Deutschland GmbH
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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 1003, PRT Hexacore AMC01 (PIR-Foam) in accordance with the procedures given in EN 13501-1: 2018.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Self-supporting double skin metal faced insulating panels Ondatherm 1003, PRT Hexacore AMC01 (PIR-Foam), is defined as an insulating panel which is produced according to EN 14509: 2013.

2.2 PRODUCT DESCRIPTION

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

Minimum thickness of panels 34 mm (85 % of minimum tested thickness 30 mm).

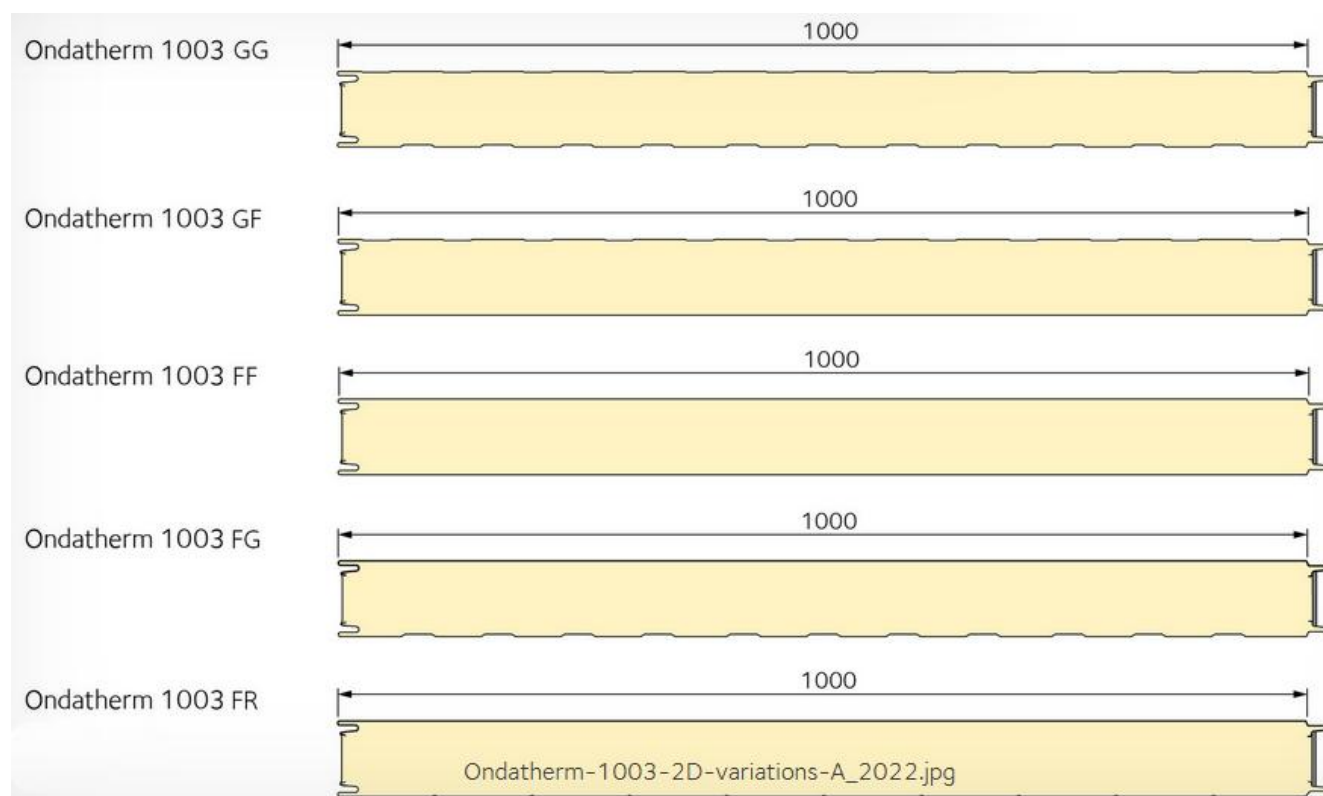
Panel width (1000 ±5) mm.

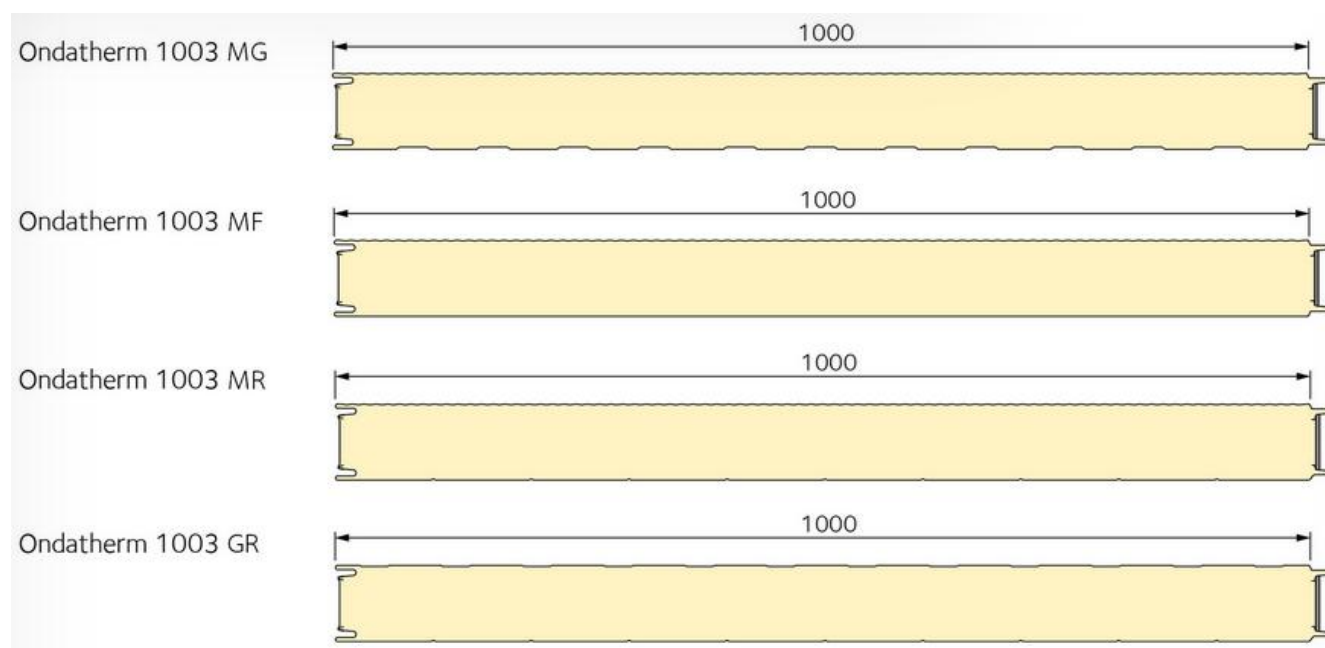
Core: - rigid polyisocyanurate foam system PRT Hexacore AMC01, blowing agent – pentane, bulk density declared by manufacturer 38 kg.m⁻³ (manufacturer: ArcelorMittal Construction, Germany).

Steel sheets: - exterior steel sheet 0,50 mm thick (nominal thickness), grade of metal S320GD (manufacturer: ArcelorMittal, France) with PE polyester coat 25 µm thick, profile geometry: flat or light profile;

- interior steel sheet 0,40 mm thick (nominal thickness), grade of metal S320GD (manufacturer: ArcelorMittal, France), with PE polyester coat 12 µm thick, profile geometry: flat or light profile.

Gaskets: - Iso-Coil PE Schaumstoff AA AV SK 5 mm, size is linked to foam thickness (manufacturer: Iso-Chemie, Aalen, Germany).





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	Type of the test
[1]	FIRES, s.r.o., Batizovce, SVK	ArcelorMittal Construction Deutschland GmbH, Sandersdorf-Brehna, Germany	FIRES-RF-028-23-AUNE	16. 02. 2023	EN 13823: 2020 + A1: 2022	A
[2]	FIRES, s.r.o., Batizovce, SVK	ArcelorMittal Construction Deutschland GmbH, Sandersdorf-Brehna, Germany	FIRES-RF-029-23-AUNE	15. 02. 2023	EN 13823: 2020 + A1: 2022	A
[3]	FIRES, s.r.o., Batizovce, SVK	ArcelorMittal Construction Deutschland GmbH, Sandersdorf-Brehna, Germany	FIRES-RF-031-23-AUNE	03. 03. 2023	EN ISO 11925-2: 2020	A

Type of the test: A – accredited, N – non-accredited

[1] – [3] – Test specimens were conditioned according to EN 13238 before the reaction to fire test

[1] – Type of tested panels, Ondatherm 1003 GG, PRT Hexacore AMC01 (PIR-Foam), 40 mm thick

[2] – Type of tested panels, Ondatherm 1003 GG, PRT Hexacore AMC01 (PIR-Foam), 120 mm thick

[3] – Type of tested panels, Ondatherm 2003 GG, PRT Hexacore AMC01 (PIR-Foam), 60 mm thick



3.3 TEST RESULTS

Test report number and test method	Characteristic value	Number of tests	Results	
			Continuous parameter - mean (m)	Compliance with parameters
[1] EN 13823: 2020 + A1: 2022	FIGRA _{0,2MJ}	3	40,3	(-)
	FIGRA _{0,4MJ}		38,1	(-)
	LFS<edge of specimen		(-)	compliant
	THR _{600s}		3,0	(-)
	SMOGRA (m ² /s ²)		3,7	(-)
	TSP600s (m ²)		47,1	(-)
[2] EN 13823: 2020 + A1: 2022	flaming droplets/particles	3	occurrence flaming ≤ 10 s flaming >10 s	non-compliant (-) (-)
	FIGRA _{0,2MJ}		45,7	(-)
	FIGRA _{0,4MJ}		40,9	(-)
	LFS<edge of specimen		(-)	compliant
	THR _{600s}		3,0	(-)
	SMOGRA (m ² /s ²)		5,2	(-)
[3] EN ISO 11925-2: 2020 surface/edge of specimen* exposed to flame (exposure time 30 s)	TSP600s (m ²)	18	47,4	(-)
	flaming droplets/particles		occurrence flaming ≤ 10 s flaming >10 s	non-compliant (-) (-)
	ignition of the paper		(-)	non-compliant

* Specimens were tested to the main surface, bottom edge and to the bottom edge in the middle of insulation thickness (specimens turned 90°), edges unprotected

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: 2018.



4.2 CLASSIFICATION

The product, Self-supporting double skin metal faced insulating panels Ondatherm 1003, PRT Hexacore AMC01 (PIR-Foam), 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 internal side);
- ii) partitions (classification valid for internal side);
- iii) ceilings (classification valid for internal 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 acc. to EN 14509: 2013 for the following product parameters:

Parameter	Factors	Validity of test / tests
Metal facings (internal side of panel)	Grade of metal	Valid for all grades of tested metal type
	Thickness of metal facing excluding organic coatings	Thickness of 0,40 mm 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 ²
	Colour of coating	All colours
Joint design		Valid for similar types of overlapping joints where the metal overlapping tongue on the internal face is minimally 15 mm Not valid for changes of shape or configuration
Seals and gaskets	Seals and Gaskets integral with panel	Tested type of gasket 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 is 34 mm



Parameter	Factors	Validity of test / tests
Orientation of panels	Vertical or horizontal application of sandwich panels	Vertically or horizontally installed panels and ceiling application
Fixing for metal flashings	Standard spacing is 400 mm	Valid for fixing spacing 400 mm or less
Metal corner flashings		All end use flashings of same material as that tested and of at least the same width and thickness
Seals	Seals which are applied in end use but not part of the manufactured panel	No seals or gaskets

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 by:

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Chief Operating Officer

Ing. Marek Gorlický
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