

Title:

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

Notified Body No:

0833

Product Name:

"Novelis ff2[®]/ff3[®]-System 2"

Report No:

WF 424266

Issue No:

1

Prepared for:

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Date:

27th March 2020

1. Introduction

This classification report defines the classification assigned to "Novelis ff2[®]/ff3[®] - System 2", a family of coated Aluminium panels, in line with the procedures given in EN 13501-1:2018.

2. Details of classified product

2.1 General

The product, "Novelis ff2[®]/ff3[®] - System 2", a family of coated Aluminium panels, is defined as being suitable for construction applications, excluding flooring and linear pipe thermal insulation.

2.2 Product description

The product, "Novelis ff2[®]/ff3[®] - System 2", is fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		Coated Aluminium sheet
Product reference of overall composite		"Novelis ff2 [®] /ff3 [®] - System 2"
Name of manufacturer of overall composite		Novelis Deutschland GmbH
Thickness of overall composite		2-3mm (2mm as tested)
Density of overall composite		2700 kg/m ³
Top coat (Test face)	Generic type	Polyvinylidene fluoride based top coating
	Product reference	"PVDF-25" "PVDF-12" "PVDF-12" "PVDF-12" "PVDF-12" "PVDF-25"
	Name of manufacturer	"PVDF-25" = Sherwin Williams "PVDF-12" = Beckers
	Colour reference	"Anthrazitgrau (1729-20)" / "Dark Grey" OR "Verkehrsweiss (19A9-20)" / "Bright White" OR "Perlweiss (1934-20)" / "Cream" OR "Sunrise Silver (2980-30)" / "Light Grey" OR "Lichtblau-metallic (2506-30)" / "Light Blue" OR "Polarmeerblau-metallic (2534-20)" / "Silvery Blue"
	Number of coats	One
	Density	1.90 g/ml - "Anthrazitgrau" PVDF-25 1.99 g/ml - "Verkehrsweiss" PVDF-12 1.91 g/ml - "Perlweiss" PVDF-12 1.66 g/ml - "Sunrise Silver" PVDF-12 1.58 g/ml - "Lichtblau-metallic" PVDF-12 1.69 g/ml - "Polarmeerblau-metallic" PVDF-25
	Thickness	20um - "Anthrazitgrau" PVDF-25 20um - "Verkehrsweiss" PVDF-12 20um - "Perlweiss" PVDF-12 20um - "Sunrise Silver" PVDF-12 20um - "Lichtblau-metallic" PVDF-12 19um - "Polarmeerblau-metallic" PVDF-25

	Application method	Roller applied liquid
	Application rate	0.038 kg/m ² "Anthrazitgrau (1729-20)" 0.040 kg/m ² "Verkehrsweiss (19A9-20)" 0.038 kg/m ² "Perlweiss (1934-20)" 0.033 kg/m ² "Sunrise Silver (2980-30)" 0.032 kg/m ² "Lichtblau-metallic (2506-30)" 0.032 kg/m ² "Polarmeerblau-metallic (2534-20)"
	Curing process per coat	Oven
	Trade name of flame retardant	See Note 1
	Generic type of flame retardant	See Note 1
	Amount of flame retardant	See Note 1
Primer	Product reference	"PP-51" "ACPR-7" "ACPR-7" "ACPR-3" "ACPR-3" "PP-51"
	Name of manufacturer	"PP-51" = Sherwin Williams "ACPR-7" = Beckers "ACPR-3" = Beckers
	Thickness	4um - "PP-51 (19Z3-10)" 4um - "ACPR-7 (17P3-20)" 4um - "ACPR-7 (17P3-20)" 4um - "ACPR-3 (17M2-10)" 4um - "ACPR-3 (17M2-10)" 5um - "PP-51 (19Z3-10)"
	Density	1.70 g / ml "PP-51 (19Z3-10)" 1.68 g / ml "ACPR-7 (17P3-20)" 1.68 g / ml "ACPR-7 (17P3-20)" 2.24 g / ml "ACPR-3 (17M2-10)" 2.24 g / ml "ACPR-3 (17M2-10)" 1.70 g / ml "PP-51 (19Z3-10)"
	Application rate	0.0068 kg/m ² "PP-51 (19Z3-10)" 0.00672 kg/m ² "ACPR-7 (17P3-20)" 0.00672 kg/m ² "ACPR-7 (17P3-20)" 0.00896 kg/m ² "ACPR-3 (17M2-10)" 0.00896 kg/m ² "ACPR-3 (17M2-10)" 0.0085 kg/m ² "PP-51 (19Z3-10)"
	Colour reference	"19Z3-10" (PP-51) "17P3-20" (ACPR-7) "17M2-10" (ACPR-3)
	Trade name of flame retardant	See Note 1
	Generic type of flame retardant	See Note 1
	Amount of flame retardant	See Note 1
	Aluminium sheet	Generic type
Name of manufacturer		Novelis Deutschland GmbH
Colour reference		Silver / Alloy AlMg3 (5754)
Density		2700 kg/m ³
Thickness		2-3mm (2mm as tested)
Trade name of flame retardant		See Note 1
Generic type of flame retardant		See Note 1

	Amount of flame retardant	See Note 1
Protective epoxy back coating	Generic type	Epoxy based protective back coat
	Product reference	Epoxi
	Name of manufacturer	Beckers
	Colour reference	29K9-25
	Number of coats	One
	Density	1.38 g /ml
	Thickness	3 µm
	Application rate	0.00414 kg/m ²
	Application method	Roller applied liquid
	Curing process per coat	Oven
	Trade name of flame retardant	See Note 1
	Generic type of flame retardant	See Note 1
	Amount of flame retardant	See Note 1
Brief description of manufacturing process of coatings	Formally tested attached with screws to non-FR treated Particleboard substrate which complied with EN 13238. Also tested indicatively with no fixings applied with a 40mm air gap between the back of the specimen and the substrate, both non-FR treated Particleboard and "6mm UCO Superflex" fibre cement board	

Note 1 - The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product / component.

3. Test reports & test results in support of classification.

3.1 Test reports.

Name of Laboratory	Name of sponsor	Test reports Nos.	Test method
Warringtonfire	Silevon Ltd	WF 424694 WF 424695 WF 426551 WF 426552 WF 426553-Issue 2	EN ISO 1716
Applus Laboratories	Novelis Deutschland GmbH	18/18448-2270 Part 1	EN ISO 1716
Applus Laboratories	Novelis Deutschland GmbH	18/18448-2270 Part 1 (full)	BS EN 13823 - Full
Warringtonfire	Silevon Ltd	WF 423641 WF 423643 WF 423644 WF 424363	BS EN 13823 - Indicative
Warringtonfire	Silevon Ltd	WF 423884	EN 15117

3.2 Test results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter - Max/ Mean (m)	Compliance with parameters
BS EN 13823*	FIGRA _{0.2MJ}	3 (full) 1 (indic)	0.93 W/s (full) 0.00, 0.00, 6.23, 0.00, 7.53 W/s (indic)	-
	FIGRA _{0.4MJ}		0.93 W/S (full) 0.00, 0.00, 6.23, 0.00, 7.53 W/S (indic)	-
	THR _{600s}		0.41 MJ (full) 0.09, 0.53, 0.74, 0.03, 1.23 MJ (indic)	-
	SMOGRA		0.00 m ² s ² (full) 0.00, 0.00, 0.00, 0.00, 0.00 m ² s ² (indic)	-
	TSP _{600s}		20.10 m ² (full) 18.75, 13.29, 6.67, 2.31, 7.17 m ² (indic)	-
	LFS		-	Compliant
	Flaming droplets lasting > 10s		-	Compliant
EN ISO 1716	PVDF-25 Top Coat - PCS (b)	3	0.5102 MJ/m ²	-
	PVDF-12 Top Coat - PCS (b)		0.7204 MJ/m ²	-
	PP-51 Primer - PCS (b)		0.1585 MJ/m ²	-
	ACPR-3 Primer - PCS (b)		0.1800 MJ/m ²	-
	ACPR-7 Primer - PCS (b)		0.1516 MJ/m ²	-
	Aluminium – PCS (a)	Deemed to satisfy (0.00 MJ/kg)		-
	Protective Epoxy back coating – PCS (b)	3	0.11 MJ/m ²	-
	For the product as a whole – PCS (e)	N/a	0.1877 MJ/kg	-

* Although no EN 1182 test was conducted on the product, the “Novelis ff2®/ff3® - System 2” product family referenced is deemed to be Euroclass A1 in accordance with EN 13501-1. This is because the PCS (MJ/m²) value for the external non-substantial components are all shown to be <2.0 MJ/m².

EN ISO 1716 : 2018 and EN 13501-1 : 2018 state that two or more non-substantial layers that are adjacent to each other (ie with no substantial component(s) in between the layers) are regarded as one non-substantial component when they collectively comply with the requirements for a layer being a non-substantial component. As a result of this, the sum of the PCS contributions for any primer+top coat configuration have also been assessed and have demonstrated a PCS < 2.0 MJ/m² and are therefore A1 compliant.

The BS EN 13823 tests, formal and indicative, consistently demonstrated parameters which complied with A1 Classification. This criteria is FIGRA <20 W/s, THR_{600s} <4.0 MJ, LFS < End of Specimen and compliance with the s1 and d0 criteria.

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1:2018, EN/TS 15117 and EN 15725.

4.2 Classification

The product, "Novelis ff2[®]/ff3[®] - System 2", a coated Aluminium panel, in relation to its reaction to fire behaviour is classified:

Reaction to fire classification: A1

4.3 Field of application

This classification is valid for the following end use applications:

- i) Construction applications applied over any substrate with a minimum density of 680kg/m³, having a minimum thickness of 10mm and a fire performance of D-s2,d0 or better, in addition to all standard EN 13238 substrates with a fire performance of A1 or A2-s1,d0.
- ii) Construction applications applied over the "6mm UCO Superflex" fibre cement board substrate with a density of 1522kg/m³ and a thickness of 6mm
- iii) Air gap details – Any air gap width between the back of the product and the substrate allowed

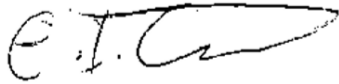
This classification is also valid for the following product parameters:

Coating application rate	Tested values (kg/m ²) or below allowed
Top coat colour	"Anthrazitgrau (1729-20)" / "Dark Grey" OR "Verkehrsweiss (19A9-20)" / "Bright White" OR "Perlweiss (1934-20)" / "Cream" OR "Sunrise Silver (2980-30)" / "Light Grey" OR "Lichtblaumetallic (2506-30)" / "Light Blue" OR "Polarmeerblaumetallic (2534-20)" / "Silvery Blue"
Aluminium thickness	2mm and greater allowed
Aluminium density	2700kg/m ³ and greater allowed
Product composition	No further variation allowed
Product construction	No further variation allowed
Mounting and fixing method	No variation allowed
Air gap details	Any air gap allowed

5. Limitations

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

SIGNED



.....
Euan Gardner
Certification Engineer
Technical Department

APPROVED



.....
Stacey Deeming
Principal Engineer
Technical Department
On behalf of **Warringtonfire**

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