

Title:

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

Approved Body No:

0833

Product Name:

"ULTIMA A2"

Report No:

517361

Issue No:

1

Prepared for:

Metalline (Services) Limited
Hollies Park Road
Cannock
Staffordshire
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Date:

14th April 2023

1. Introduction

This classification report defines the classification assigned to "ULTIMA A2", a family of insulated spandrel panel products, in line with the procedures given in EN 13501-1: 2018.

2. Details of classified product

2.1 General

The products, "ULTIMA A2", are defined as being suitable for construction applications, excluding flooring and linear pipe thermal insulation.

2.2 Product description

The products, "ULTIMA A2", are fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		Insulated spandrel panel
Product reference of overall composite		"ULTIMA A2"
Name of manufacturer of overall composite		Metalline (Services) Ltd
Thickness of overall composite		20 - 104mm
Coating (Test face)	Generic type	Polyester powder coat
	Product reference	"Interpon"
	Name of manufacturer	Akzo Nobel
	Colour reference	"Dark Grey"
	Number of coats	See Note 1 below
	Thickness	90 microns
	Application rate	0.153kg/m ²
	Density	1700kg/m ³
	Application method	See Note 1 below
	Curing process per coat	See Note 1 below
	Flame retardant details	See Note 1 below
Aluminium	Generic type	Aluminium grade 1050
	Product reference	"Aluminium"
	Name of manufacturer	See Note 1 below
	Thickness	2mm or 3mm
	Density	2700kg/m ³
	Weight per unit area	5.4kg/m ²
	Flame retardant details	The component is inherently flame retardant
Adhesive	Generic type	Polyurethane based adhesive
	Product reference	"Apollo Adhesive (A7535)"
	Name of manufacturer	Apollo
	Thickness	100 microns
	Weight per unit area	0.115kg/m ²
	Density	1150kg/m ³
	Colour reference	See Note 1 below
	Flame retardant details	See Note 1 below

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Insulation	Generic type	Mineral wool insulation
	Product reference	"Fabrock Clad"
	Name of manufacturer	Rockwool
	Thickness	16 - 100mm
	Weight per unit area	1.92 - 12kg/m ²
	Density	120kg/m ³
	Colour reference	See Note 1 below
	Flame retardant details	See Note 1 below
Adhesive	Generic type	Polyurethane based adhesive
	Product reference	"Apollo Adhesive (A7535)"
	Name of manufacturer	Apollo
	Thickness	100 microns
	Weight per unit area	0.115kg/m ²
	Density	1150kg/m ³
	Colour reference	See Note 1 below
	Flame retardant details	See Note 1 below
Reverse face Option 1 - Aluminium	Generic type	Mill finish aluminium (grade 1050)
	Product reference	"Aluminium"
	Name of manufacturer	See Note 1 below
	Thickness	2mm
	Density	2700kg/m ³
	Weight per unit area	5.4kg/m ²
	Flame retardant details	The component is inherently flame retardant
Reverse face Option 2 – Galvanised steel	Generic type	Galvanised mild steel
	Product reference	"Galvanised Mild Steel"
	Name of manufacturer	See Note 1 below
	Thickness	1mm
	Density	7850kg/m ³
	Weight per unit area	7.85kg/m ²
	Flame retardant details	The component is inherently flame retardant

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Reverse face Option 3 – PPC coated aluminium	Aluminium	Generic type	Mill finish aluminium (grade 1050)
		Product reference	"Aluminium"
		Name of manufacturer	See Note 1 below
		Thickness	2mm
		Density	2700kg/m ³
		Weight per unit area	5.4kg/m ²
		Flame retardant details	The component is inherently flame retardant
	Coating (Reverse face)	Generic type	Polyester powder coat
		Product reference	"Interpon"
		Name of manufacturer	Akzo Nobel
		Colour reference	"Dark Grey"
		Number of coats	See Note 1 below
		Thickness	90microns
		Application rate	0.153kg/m ²
		Density	1700kg/m ³
		Application method	See Note 1 below
		Curing process per coat	See Note 1 below
		Flame retardant details	See Note 1 below
		Optional Hard edging (Applied as a strip around the perimeter edge of the panel)	Generic type
Product reference	"Ultima A1 Hard Edge"		
Detailed description	See Note 1 below		
Name of manufacturer	Metalline		
Thickness	16 – 100mm		
Density	1830kg/m ³		
Width of edging strip in use	25 – 50mm		
Flame retardant details	This product is inherently flame retardant		
Substrate	Product reference	"Promat – Brandschultzbauplatten; Promatect-H"	
	Generic type	Calcium silicate based board	
	Name of manufacturer	Promat	
	Thickness	12mm	
	Density	870kg/m ³	
	Flame retardant details	The substrate is inherently flame retardant	
Air space details		A 40mm ventilated cavity was situated between the reverse face of the specimens and the calcium silicate substrate as defined in EN 13238:2010	
Brief description of manufacturing process		See Note 1 below	

Note 1: The sponsor was unwilling to provide this information.

3. Test reports/extended application reports & test results in support of classification

3.1 Test reports/extended application reports

Name of Laboratory	Name of sponsor	Test reports/extended application report Nos.	Test method / extended application rules & date
Efectis	Metalline Ltd	EFR-20-HC-001856D	NF EN ISO 1716: 2018
CSTB	Akzo Nobel Powder Coatings SNC	RA18-0083	NF EN ISO 1716: 2013
Warringtonfire	Metalline Services Ltd	433461, 502682	EN ISO 1716: 2018
Warringtonfire	Metalline Services Ltd	517331, 517332, 517333, 517334, 517335, 517336	EN ISO 1716: 2018 Composite summary report
Warringtonfire	Metalline Services Ltd	Formal: WF 435206, 506640 Indicative: 504644, 504645, 528921, 517794	EN 13823: 2020
Warringtonfire	Metalline Services Ltd	434691, 507913	EN 13501-1: 2018
Warringtonfire	Metalline Services Ltd	507914, 517362	EN 15725:2010 and EN/TS 15117:2005

3.2 Test results

Test method & test number	Parameter	No. tests	Report	Results	
				Continuous parameter - mean (m)	Compliance parameters
EN 13823	FIGRA _{0.2MJ}	3	435206	22 W/s	-
		3	506640	37 W/s	-
		1	504644	36 W/s	-
		1	504645	32 W/s	-
		1	528921	0 W/s	-
		1	517794	0 W/s	-
	FIGRA _{0.4MJ}	3	435206	22 W/s	-
		3	506640	33 W/s	-
		1	504644	35 W/s	-
		1	504645	20 W/s	-
		1	528921	0 W/s	-
		1	517794	0 W/s	-
	THR _{600s}	3	435206	1.5 MJ	-
		3	506640	1.4 MJ	-
		1	504644	1.4 MJ	-
		1	504645	0.7 MJ	-
		1	528921	0.2 MJ	-
		1	517794	0.1 MJ	-
	LFS	3	435206	-	Compliant
		3	506640	-	Compliant
		1	504644	-	Compliant
		1	504645	-	Compliant
		1	528921	-	Compliant
		1	517794	-	Compliant
	SMOGRA	3	435206	3 m ² s ²	-
		3	506640	0 m ² s ²	-
		1	504644	5 m ² s ²	-
		1	504645	5 m ² s ²	-
		1	528921	5 m ² /s ²	-
		1	517794	6 m ² /s ²	-
	TSP _{600s}	3	435206	35 m ²	-
		3	506640	3 m ²	-
		1	504644	43 m ²	-
		1	504645	30 m ²	-
		1	528921	29 m ²	-
		1	517794	45 m ²	-
	Fall of Flaming Droplet/Particle?	3	435206	-	Compliant
		3	506640	-	Compliant
		1	504644	-	Compliant
		1	504645	-	Compliant
		1	528921	-	Compliant
		1	517794	-	Compliant

EN 13823 (continued)	Flaming of Fallen Particle Exceeding 10s?	3	435206	-	Compliant
		3	506640	-	Compliant
		1	504644	-	Compliant
		1	504645	-	Compliant
		1	528921	-	Compliant
		1	517794	-	Compliant
EN ISO 1716 aluminium on reverse (517331)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)			-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)			-
	For the product as a whole PCS (e)	Summary result	1.0 MJ/kg	-	-
EN ISO 1716 PPC coated aluminium on reverse (517332)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)			-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)			-
	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-	-
	For the product as a whole PCS (e)	Summary result	1.2 MJ/kg	-	-

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EN ISO 1716 Galvanised steel on reverse (517333)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Galvanised steel - PCS (a)	Deemed to satisfy (0.0)		-
	For the product as a whole PCS (e)	Summary result	0.9 MJ/kg	-
EN ISO 1716 aluminium on reverse, with hard edging (517334)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Hard edging - PCS (b)	3	1.0MJ/kg	-
For the product as a whole PCS (e)	Summary result	1.0 MJ/kg	-	
EN ISO 1716 PPC coated aluminium on reverse, with hard edging (517335)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-
	Hard edging	3	1.0 MJ/kg	-
For the product as a whole PCS (e)	Summary result	1.1 MJ/kg	-	

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EN ISO 1716 Galvanised steel on reverse, with hard edging (517336)	Coating – PCS (b)	3	3.1 MJ/m ² (20.6MJ/kg)	-
	Aluminium - PCS (a)	Deemed to satisfy (0.0)		-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Insulation - PCS (b)	3	1.1 MJ/kg	-
	Adhesive - PCS (d)	3	3.5 MJ/m ² (30.6MJ/kg)	-
	Galvanised steel - PCS (a)	Deemed to satisfy (0.0)		-
	Hard edging	3	1.0 MJ/kg	-
	For the product as a whole PCS (e)	Summary result	1.0 MJ/kg	-

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, BS EN 15725: 2010, EN/TS 15117: 2005 and EN 14509: 2013.

4.2 Classification

The products, "ULTIMA A2", a family of insulated spandrel panel products, in relation to their reaction to fire behaviour are classified:

A2

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 applications, excluding flooring and linear pipe thermal insulation is:

Fire Behaviour		Smoke Production			Flaming Droplets	
A2	-	s	1	,	d	0

i.e. A2 – s1 , d0

Reaction to fire classification: A2 – s1, d0

4.3 Field of application

This classification is valid for the following end use applications:

- i) Construction applications mounted with a minimum 40mm airspace over any substrate with a density equal to or greater than 652.5kg/m^3 , having a minimum thickness of 9mm and a fire performance of A2-s1, d₀ or better (excluding paper faced gypsum plasterboard).
- ii) Air gap - $\geq 40\text{mm}$

This classification is also valid for the following product parameters:

Grade of metal	Valid for all grades of tested metal types
Aluminium thickness (test face)	2mm-6mm
Reverse face	Valid for Option 1 – uncoated mill finish aluminium OR Option 2 – uncoated galvanised steel OR Option 3 – PPC coated aluminium, as described above
Mill finish aluminium thickness (reverse face)	1mm-2mm
Galvanised steel thickness (reverse face)	1mm-2mm
PPC coated aluminium thickness (reverse face)	2mm-4mm
Perimeter edging	With or without “ULTIMA A1 Hard Edging” as described above
Profile geometry	Valid for other types of flat or light profile ($\leq 5\text{mm}$)
Coating type (test face)	Valid for all coating in the range $0\text{-}4\text{ MJ/m}^2$
Coating colour (test face)	Valid for all colours
Adhesive	Valid for an alternative adhesive and different quantity, with calorific value \leq to that tested (expressed as PCS in MJ/m^2)
Insulation thickness	16mm – 100mm
Insulation density	$120\text{ kg/m}^3 \pm 15\%$
Insulation type	Valid for same type of fibre with same PCS or lower of the tested binder
Panel thickness	As tested $\pm 15\%$
Product composition	No further variation allowed
Product construction	No further variation allowed
Air gap details	$\geq 40\text{mm}$ allowed
Joint details	No joints allowed

5. Limitations

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

SIGNED



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Claire Lawrence
Product Assessor
Technical Department

APPROVED



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Stacey Deeming
Principal Product Assessor
Technical Department
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