

**Title:**

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

**Product Name:**

“Aluclad Systems Rainscreen Cladding, White”

**Report No:**

WF 503990

**Issue No:**

1

**Prepared for:**

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**Date:**

30<sup>th</sup> June 2021

## 1. Introduction

This classification report defines the classification assigned to “Aluclad Systems Rainscreen Cladding, White”, a family of white coloured, coated aluminium products, in line with the procedures given in EN 13501-1: 2018.

## 2. Details of classified product

### 2.1 General

The products, “Aluclad Systems Rainscreen Cladding, White”, are defined as being suitable for construction applications, excluding flooring and linear pipe thermal insulation.

### 2.2 Product description

The products, “Aluclad Systems Rainscreen Cladding”, are fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		Powder Coated/Heat Transfer Aluminium Rainscreen Cladding
Product reference of coating system		“Aluclad Systems Rainscreen Cladding, White”
Name of manufacturer		Aluclad Systems Ltd.
Overall thickness		2mm or 3mm
Overall weight per unit area		5.6kg/m <sup>2</sup> (2mm) or 8.8kg/m <sup>2</sup> (3mm)
Form of panel		Flat sheet or cassette
Coating (Test face)	Generic type	Polyester based powder coating
	Product reference	“Alesta® SD Superdurable Architectural SD Matt”
	Name of manufacturer	Axalta Coating Systems
	Colour	“White”
	Number of coats	One
	Application rate	98g/m <sup>2</sup> -119g/m <sup>2</sup>
	Thickness per coat	60-70 microns
	Specific gravity	1.3 -1.7
	Application method	Electrostatic Spray
	Flame retardant details	<b>See Note 1 below</b>
Aluminium	Curing process	20 min @ 180-200°C
	Generic type	Aluminium
	Product reference	“Grade 1050”
	Name of manufacturer	Gränges Konin S.A.
	Thickness	2mm or 3mm
	Weight per unit area	5.6kg/m <sup>2</sup> or 8.8kg/m <sup>2</sup>
Flame retardant details	<b>See Note 1 below</b>	
Mounting and fixings 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

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Joint details	Vertical and horizontal joints were incorporated into the test specimens
Brief description of manufacturing process	<p>Aluminium Flat Sheets are typically laser cut to a specific panel size</p> <p>Powder Coating – Surface preparation &amp; pre-treatment, the removal of grease, oil, dirt and any other contaminants via chemical, physical or mechanical methods to clean the surface promoting coating adhesion.</p> <p>The powder coat process is the application of electrostatically charged particles onto the surface of the substrate, the gun emits the powder in the form of a diffused cloud combined with an electrical field charge the charged particles seek out and adhere to the substrate.</p> <p>Upon application of the coating, the next step is curing, which involves baking the items in a specially designed oven. Curing results in the formation of a protective skin and promotes coating adhesion; in general, curing is performed at 180°C - 200°C for approximately 10-40 minutes.</p>

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

### 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
Warringtonfire	Aluclad Systems Ltd	WF 501908	EN ISO 1716: 2018
Warringtonfire	Aluclad Systems Ltd	Formal: WF 502637 Indicative: WF 501904, WF 501906	EN 13823: 2020
Warringtonfire	Aluclad Systems Ltd	WF 503997	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 <sub>0.2MJ</sub>	3	WF 502637	5 W/s	-	
		1	WF 501904	0 W/s	-	
		1	WF 501906	0 W/s	-	
	FIGRA <sub>0.4MJ</sub>	3	WF 502637	0 W/s	-	
		1	WF 501904	0 W/s	-	
		1	WF 501906	0 W/s	-	
	THR <sub>600s</sub>	3	WF 502637	0.5 MJ	-	
		1	WF 501904	0.8 MJ	-	
		1	WF 501906	0.6 MJ	-	
	LFS	3	WF 502637	-	Compliant	
		1	WF 501904	-	Compliant	
		1	WF 501906	-	Compliant	
	SMOGRA	3	WF 502637	0 m <sup>2</sup> s <sup>2</sup>	-	
		1	WF 501904	0 m <sup>2</sup> s <sup>2</sup>	-	
		1	WF 501906	0 m <sup>2</sup> s <sup>2</sup>	-	
	TSP <sub>600s</sub>	3	WF 502637	17 m <sup>2</sup>	-	
		1	WF 501904	25 m <sup>2</sup>	-	
		1	WF 501906	22 m <sup>2</sup>	-	
	Fall of Flaming Droplet/Particle?	3	WF 502637	-	Compliant	
		1	WF 501904	-	Compliant	
		1	WF 501906	-	Compliant	
	Flaming of Fallen Particle Exceeding 10s?	3	WF 502637	-	Compliant	
		1	WF 501904	-	Compliant	
		1	WF 501906	-	Compliant	
	EN ISO 1716	Topcoat, white - PCS (c) *	3		16.6 MJ/kg / 1.97 MJ/m <sup>2</sup>	-
		Aluminium - PCS (a)		Deemed to satisfy (0.0)		-
		For the product as a whole PCS (e)		Summary result	0.3 MJ/kg	-

\*The product did not pass the requirements for PCS (b), however, the product is deemed to be compliant if in accordance with Table 1, Note (c) of EN 13501-1, any external non-substantial component has a PCS (c) ≤ 2.0 MJ/m<sup>2</sup>, provided that the product satisfies the following criteria of EN 13823: FIGRA ≤ 20 W/s & LFS < edge of specimen & THR ≤ 4.0MJ & S1 & d0, which in this case it does, at a maximum coating application rate of 119g/m<sup>2</sup>. EN ISO 1182 testing on the substantial component within the system (aluminium) was not required as a result of the EC decision relating to this component being class A1 compliant without the need to test.

## 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 and EN/TS 15117: 2005.

### 4.2 Classification

The products, "Aluclad Systems Rainscreen Cladding, White", a family of white coloured, coated aluminium products, in relation to their reaction to fire behaviour are classified:

**Reaction to fire classification: A1**

### 4.3 Field of application

This classification is valid for the following end use applications:

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

This classification is also valid for the following product parameters:

Topcoat	No variation allowed
Topcoat colour	White, no variation allowed
Coating thickness	60-70 microns, no variation allowed
Coating application rate	$98-119\text{g/m}^2$ , no variation allowed
Coating density	No variation allowed
Aluminium sheet thickness	2mm or 3mm
Form of panels	Cassette or Flat sheet
Joints	Horizontal and vertical joints allowed
Product composition	No variation allowed
Product construction	No variation allowed

## 5. Limitations

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

### SIGNED



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### Stacey Deeming

Principal Engineer  
Technical Department

### APPROVED



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### Matthew Dale

Principal Certification Engineer  
Technical Department  
on behalf of [Warringtonfire](#)

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