

Title:

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

Product Name:

"FastClad A2"

Report No:

WF 524130

Issue No:

1

Prepared for:

Advanced Construction Systems

FastClad Building,
Granite Close,
Enderby,
Leicester,
LE19 4AE

Date:

13th December 2022

1. Introduction

This classification report defines the classification assigned to “FastClad A2”, a family of brick slip rainscreen cladding products, in line with the procedures given in EN 13501-1: 2018.

2. Details of classified product

2.1 General

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

2.2 Product description

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

General description		Brick slip rainscreen cladding
Product reference of overall composite		“FastClad A2”
Name of manufacturer of overall composite		Advanced Construction Systems Limited
Thickness of overall composite		32mm
Weight per unit area of overall composite		53kg/m ²
Brick slip (Test face)	Generic type	Clay brick cut to slip
	Name of manufacturer	Wienerberger, The Bespoke Brick Co., Ibstock PLC, Crest Brick Slate and Tile Ltd (as tested)
	Colour reference	Any
	Thickness	15mm
	Weight per unit area	20 - 24kg/m ²
	Flame retardant details	See Note 1 below
Adhesive	Generic type	A2 fire rated epoxy adhesive
	Product reference	“S-2865FRE ACS”
	Name of manufacturer	Structural Adhesives Limited
	Application rate	652g/m ² wet applied (509g/m ² dry/cured)
	Application method	Steel stencil to limit application
	Flame retardant details	See Note 1 below
Mortar (between brick slips)	Curing process	Two part chemical cure
	Generic type	Lime mortar
	Product reference	“Ultrascape Regency Range”, “Historic Mortar EA203”
	Name of manufacturer	Instamac Group PLC, Parex Limited
	Colour	Any
	Application rate	5 kg/m ²
	Application thickness	15mm
	Application method	Gun injected into joints
Flame retardant details	See Note 1 below	
Curing process	Hydration	

Continued on next page

Board	Generic type	A2 cement particle board
	Product reference	"Betopan Plus – FastClad Profile"
	Name of supplier	Tepe Betopan
	Thickness	16mm
	Density	1450kg/m ³
	Weight per unit area	24kg/m ²
	Colour	Natural
	Flame retardant details	See Note 1 below
Metal rails	Generic type	Structural grade steel galvanised to 7275g/m ²
	Product reference	"Top Hat Rail"
	Name of manufacturer	Architectural Profiles Limited
	Thickness	2mm
	Weight per unit area	2.92 kg/m ²
	Dimensions	80mm wide, 15mm deep, 1500mm long
	Flame retardant details	This product is inherently flame retardant
Substrate (EN 13238: 2010)	Generic type	Calcium silicate based board
	Product reference	"Promat – Brandschultzbauplatten; Promatect-H"
	Name of supplier	Promat
	Thickness	12mm
	Density	870kg/m ³
	Flame retardant details	This product is inherently flame retardant
Mounting and fixing 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		The A2 fire rated adhesive is applied to the FastClad profiled A2 cement particle board via stainless steel stencil. Brick slips are manually placed onto the areas where the adhesive has been placed and the boards are left to cure. The boards are screw fixed utilising stainless steel screws to the galvanised steel top hat rails which form the structure and provides a drained and ventilated cavity. The gap between the slips is pointed with a lime mortar via a pointing gun, tooled to a finish and left to cure.

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/classification report Nos.	Test method / classification rules & date
Warringtonfire	Advanced Construction Systems	435488, 435487, 435489, 437113, 510383, 510384, 510385, 510387 510680, 510681 (Issue 2), 510682	EN ISO 1716: 2018
Warringtonfire		Formal: 435852 (Issue 4), 521502 (Issue 2) Indicative: 514730 (Issue 2), 514731 (Issue 2), 514732 (Issue 2), 514733 (Issue 2), 517868 (Issue 2), 517869 (Issue 2), 517870 (Issue 2)	EN 13823: 2020
Warringtonfire		WF 524131	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	435852 (14)	0 W/s	-
		3	521502 (12)	0 W/s	-
		1	514730 (12)	0 W/s	-
		1	514731 (12)	0 W/s	-
		1	514732 (12)	0 W/s	-
		1	514733 (12)	9 W/s	-
		1	517868 (12)	0 W/s	-
		1	517869 (12)	0 W/s	-
		1	517870 (12)	0 W/s	-
	FIGRA _{0.4MJ}	3	435852 (14)	0 W/s	-
		3	521502 (12)	0 W/s	-
		1	514730 (12)	0 W/s	-
		1	514731 (12)	0 W/s	-
		1	514732 (12)	0 W/s	-
		1	514733 (12)	9 W/s	-
		1	517868 (12)	0 W/s	-
		1	517869 (12)	0 W/s	-
1	517870 (12)	0 W/s	-		

	THR _{600s}	3	435852 (14)	0.4 MJ	-
		3	521502 (12)	0.3 MJ	-
		1	514730 (12)	0.6 MJ	-
		1	514731 (12)	0.0 MJ	-
		1	514732 (12)	0.1 MJ	-
		1	514733 (12)	1.2 MJ	-
		1	517868 (12)	0.1 MJ	-
		1	517869 (12)	0.0 MJ	-
		1	517870 (12)	0.1 MJ	-
	LFS	3	435852 (14)	-	Compliant
		3	521502 (12)	-	Compliant
		1	514730 (12)	-	Compliant
		1	514731 (12)	-	Compliant
		1	514732 (12)	-	Compliant
		1	514733 (12)	-	Compliant
		1	517868 (12)	-	Compliant
		1	517869 (12)	-	Compliant
		1	517870 (12)	-	Compliant
	SMOGRA	3	435852 (14)	0 m ² /s ²	-
		3	521502 (12)	0 m ² /s ²	-
		1	514730 (12)	0 m ² /s ²	-
		1	514731 (12)	0 m ² /s ²	-
		1	514732 (12)	0 m ² /s ²	-
		1	514733 (12)	0 m ² /s ²	-
		1	517868 (12)	0 m ² /s ²	-
		1	517869 (12)	0 m ² /s ²	-
		1	517870 (12)	0 m ² /s ²	-
	TSP _{600s}	3	435852 (14)	2 m ²	-
		3	521502 (12)	13 m ²	-
		1	514730 (12)	0 m ²	-
		1	514731 (12)	4 m ²	-
		1	514732 (12)	2 m ²	-
		1	514733 (12)	5 m ²	-
		1	517868 (12)	20 m ²	-
		1	517869 (12)	21 m ²	-
		1	517870 (12)	19 m ²	-
Fall of Flaming Droplet/Particle?	3	435852 (14)	-	Compliant	
	3	521502 (12)	-	Compliant	
	1	514730 (12)	-	Compliant	
	1	514731 (12)	-	Compliant	
	1	514732 (12)	-	Compliant	
	1	514733 (12)	-	Compliant	
	1	517868 (12)	-	Compliant	
	1	517869 (12)	-	Compliant	
	1	517870 (12)	-	Compliant	
Flaming of Fallen Particle Exceeding 10s?	3	435852 (14)	-	Compliant	
	3	521502 (12)	-	Compliant	
	1	514730 (12)	-	Compliant	

		1	514731 (12)	-	Compliant
		1	514732 (12)	-	Compliant
		1	514733 (12)	-	Compliant
		1	517868 (12)	-	Compliant
		1	517869 (12)	-	Compliant
		1	517870 (12)	-	Compliant
EN ISO 1716 Individual component results	510383 – London White Brick (Hard White)	3	0.2 MJ/kg	-	
	510384 – Karma White Brick (Soft White)	3	0.3 MJ/kg	-	
	435488 – Red Brick (Medium)	3	0.2 MJ/kg	-	
	510385 – Westminster Blue Black Brick (Hard Black)	3	0.4 MJ/kg	-	
	510387 – Graphite Black Brick (Soft Black)	3	0.2 MJ/kg	-	
	510680 – Red Mortar	3	0.3 MJ/kg	-	
	510681 (12) – Black Mortar	3	0.4 MJ/kg	-	
	510682 – White Mortar	3	0.3 MJ/kg	-	
	435487 – Historic mortar	3	-0.1 MJ/kg	-	
	435489 - Adhesive	3	6.7 MJ/kg	-	
	437113 – Cement Board	3	2.4 MJ/kg	-	
EN ISO 1716 Worst case composite calculation	Brick Slip - PCS (a)	3	0.4 MJ/kg	-	
	Adhesive – PCS (d)	3	3.4 MJ/m ²	-	
	Mortar – PCS (a)	3	0.4 MJ/kg	-	
	Cement Board – PCS (a)	3	2.4 MJ/kg	-	
	For the product as a whole PCS (e)	Summary result	1.6 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, EN 15725:2010 and EN/TS 15117:2005

4.2 Classification

The products, "FastClad A2", a family of brick slip rainscreen cladding products, in relation to their reaction to fire behaviour is 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, mechanically fixed on steel rails, with an air gap of 40mm or greater over any substrate with a density equal to or greater than 652.5kg/m³, having a minimum thickness of 9mm and a fire performance of A2-s1,d0 or better (excluding paper faced gypsum plasterboard).
- ii) No joints permitted

This classification is also valid for the following product parameters:

Product thickness	32mm \pm 3mm
Product weight per unit area	53kg/m ² \pm variation arising from brick slip manufacturing tolerance (\pm 3mm)
Brick type	Clay bricks manufactured to EN 771-1
Brick colour	Any
Brick compressive strength	7 N/mm ² to 125 N/mm ²
Mortar type	Lime mortar
Mortar colour	Any
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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APPROVED



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