

Reaction to fire classification report

Issuing laboratory: Warringtonfire Testing and Certification Limited

Classification standard: EN 13501-1: 2018

Sponsor(s): Fairview Europe Ltd

Product(s): VitralDual"

Report number: 535604

Version: 1

Quality management

Version	Date	Summary of amendments including reasons	
1	24 September 2024	Description	Initial issue
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*Signed for and on behalf of Warringtonfire Testing and Certification Limited			

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1. Introduction

This classification report defines the classification assigned to VitralDual", in line with the procedures given in EN 13501-1: 2018.

Warringtonfire Testing and Certification Limited (Warringtonfire) issued the classification report at the request of the report owner listed in Table 1.

Table 1 Sponsor details

Entity	Address
Report owner	
Fairview Europe Ltd	Dunball House, Unit N, Woodlands Court Business Park Bristol Road, Bridgewater, Somerset TA6 4FJ United Kingdom

2. Details of classified product

2.1 General

The product(s), VitralDual", are defined as being suitable for construction applications and flooring applications.

2.2 Product description

The product(s), VitralDual", are described in Table 2 and in the test reports listed in Section 3.1.

Table 2 Product description

Item	Detail	
General description	Pre-coated aluminium façade panel	
Product reference of coating system	"VitralDual"	
Name of manufacturer	See Note 1 below	
Overall thickness	2 to 3mm	
Overall weight per unit area	5.4 to 8.1kg/m ²	
Top coat	Generic type	Polyvinylidene difluoride (PVDF)
	Product reference	"Black, RAL 9005 VL3241 PVDF 30 Gloss" "White, RAL 9016 VL3260 PVDF 25 Gloss" and "Red, RAL 3003 ATK VL3750"
	Name of manufacturer	See Note 1 below
	Colour reference	"RAL 9005" "RAL6016" and "RAL 3003"
	Colour	Any colour (Black, White and Red tested)
	Number of coats	See Note 2 below
	Application rate	0.032-0.059kg/m ²
	Application method	Coil coating
	Application thickness	15-30 microns
	Flame retardant details	See Note 3 below
Curing process	Heat cure	

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Item		Detail
Primer coat	Generic type	Front polyurethane primer
	Product reference	"White Primer VL596 PU50 Gloss"
	Name of manufacturer	See Note 1 below
	Colour	White
	Number of coats	See Note 2 below
	Application thickness per coat	5-10 microns
	Application rate	0.01-0.02kg/m ²
	Application method	Coil coating
	Flame retardant details	See Note 3 below
	Curing process	Heat cure
Aluminium	Generic type	Aluminium coil
	Product reference	"Aluminium"
	Name of manufacturer	See Note 1 below
	Thickness	3mm
	Weight per unit area	8.1kg/m ²
	Flame retardant details	This product is inherently flame retardant
Rear coating	Generic type	Rear epoxy coating
	Product reference	"Back Coat, RAL 7035 VL232 Epoxy 35 Gloss"
	Name of manufacturer	See Note 1 below
	Colour reference	"RAL 7035"
	Colour	Light grey
	Number of coats	See Note 2 below
	Application thickness per coat	8 microns
	Application rate	0.016kg/m ²
	Application method	Coil coating
	Flame retardant details	See Note 3 below
Curing process	Heat cure	
Brief description of manufacturing process		Aluminium coil is coated with the front primer followed by the top PDVF coating and just a primer coating on the reverse face
Joint details	Joint type	Both
	Position of horizontal joint from bottom edge of specimen	500mm
	Position of vertical joint from the corner line, measured when the wings are mounted ready for testing	200mm
	Depth of joint	3.02mm
	Width of joint	Closed joints (no spacing) and open joints (10mm spacing)
Mounting and fixing details		A 40mm ventilated cavity was situated between the reverse face of the specimen and a substrate in accordance with EN 13238:2010 as detailed below

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Item	Detail	
Substrate (Option 1)	Generic type	Non flame retardant grade plywood
	Product reference	"Plywood"
	Name of manufacturer	Wisa
	Thickness	9mm
	Density	450kg/m ³
Substrate (Option 2)	Generic type	Unfaced rockwool
	Product reference	"Earthwool RS45 Universal Insulation Slab"
	Name of manufacturer	Knauf
	Thickness	25mm
	Density	50±20kg/m ³

Note 1: The sponsor of the test has provided this information but at the specific request of the sponsor, these details have been omitted from the report and are instead held on the confidential file relating to this investigation.

Note 2: The sponsor was unwilling to provide this information.

Note 3: The sponsor of the test has confirmed that no flame-retardant additives were utilised in the production of the component.

3. Test reports and test results in support of classification

3.1 Test reports

Table 3 details the test reports that have been used in support of classification.

Table 3 Test reports

Name of laboratory	Name of sponsor(s)	Test report no.	Test date	Test and extended application standard
Warringtonfire	Fairview Europe Ltd	535080 (Issue 3)	28 and 29 September 2023	EN 13823: 2020 + A1: 2022
Warringtonfire	Fairview Europe Ltd	535077 (Issue 3)	26 September 2023	
Warringtonfire	Fairview Europe Ltd	535078 (Issue 3)	27 September 2023	
Warringtonfire	Fairview Europe Ltd	535079 (Issue 3)	26 September 2023	
Warringtonfire	Fairview Europe Ltd	537967	28 September 2023	
Warringtonfire	Fairview Europe Ltd	544326 (Issue 2)	19 June 2024	
Warringtonfire	Fairview Europe Ltd	544327 (Issue 2)	19 and 20 June 2024	

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Name of laboratory	Name of sponsor(s)	Test report no.	Test date	Test and extended application standard
Warringtonfire	Fairview Europe Ltd	531791	19 April 2023	EN ISO 1716: 2018 (*)
Warringtonfire	Fairview Europe Ltd	531792	19 April 2023	
Warringtonfire	Fairview Europe Ltd	531793	19 April 2023	
Warringtonfire	Fairview Europe Ltd	531794	19 April 2023	
Warringtonfire	Fairview Europe Ltd	531795	19 April 2023	

(*) As the test procedure for EN ISO 1716 remained identical for versions 2010 & 2018 and no substantial technical changes were noticed in the most recent version 2018, results obtained with the 2018 version can also be considered valid for classification purposes (where only the 2010 version is mentioned).

Note: A1 classification requires EN ISO 1182 testing to be conducted on substantial components of non-homogenous products. In this instance the aluminium sheet component is the only substantial component that would require this testing. As a result of the difficulties in performing the test on this type of material, and as it is covered by Commission Decision 96/03/EC as meeting the requirements of an A1 material without the need for testing, the aluminium has not been tested but is deemed to be compliant with the EN ISO 1182.

3.2 Test results

3.2.1 Official test results used for the classification

Table 4 details the test results that have been used in support of classification. The fire performance parameters for class A1, s1 – d0 can be found in Table 7.

Table 4 Test data

Test method Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN 13823: 2020 + A1: 2022 535080 (Issue 3) Black topcoat with 3mm aluminium, 10mm open joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	3	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.5	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		14	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant

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Test method Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN 13823: 2020 + A1: 2022 544327 (Issue 2) Black topcoat with 3mm aluminium, 10mm open joints on reverse face	FIGRA (THR(t) threshold of 0.2MJ)	3	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.3	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		8	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant

Test method Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN ISO 1716: 2018 531791	Average gross heat of combustion for NON-SUBSTANTIAL component (black topcoat), Q _{PCS} (MJ/m ²)	3	1.1	-
EN ISO 1716: 2018 531792	Average gross heat of combustion for NON-SUBSTANTIAL component (primer), Q _{PCS} (MJ/m ²)	3	0.3	-
Combined gross heat of combustion for NON-SUBSTANTIAL components (Topcoat and primer) Q _{PCS} (MJ/m ²)		-	1.4	-
EN ISO 1716: 2018 N/A	Average gross heat of combustion on SUBSTANTIAL component (aluminium), Q _{PCS} (MJ/kg)	-	0	-
EN ISO 1716: 2018 531793	Average gross heat of combustion for NON-SUBSTANTIAL component (back coat), Q _{PCS} (MJ/ m ²)	3	0.2	-
EN ISO 1716: 2018	Gross heat of combustion for product as a whole, Q _{PCS} (MJ/kg)	-	0.3	-

Note: '-' symbol confirms this parameter is not applicable.

3.2.2 Comparative test results used for the worst case determinations

The tables below detail the test data that has been used to determine the worst case for each product parameter.

Table 5 EN 13823

Product name Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN 13823 : 2020+A1:2022 535077 (Issue 3) Red top coat with 2mm aluminium, 10mm open joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.0	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		0	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant
EN 13823 : 2020+A1:2022 535078 (Issue 3) White top coat with 2mm aluminium, 10mm open joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.3	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		3	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant
EN 13823 : 2020+A1:2022 535079 (Issue 3) Black topcoat with 2mm aluminium, 10mm open joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.6	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		0	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant

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Product name Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN 13823 : 2020+A1:2022 535080 (Issue 3)* Black top coat with 3mm aluminium, 10mm open joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.7	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		9	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant
EN 13823 : 2020+A1:2022 537967 Black top coat with 3mm aluminium, closed joints over plywood substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.6	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		10	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant
EN 13823 : 2020+A1:2022 544326 (Issue 2) Black top coat with 3mm aluminium, 10mm open joints over rockwool insulation substrate	FIGRA (THR(t) threshold of 0.2MJ)	1	0	-
	FIGRA (THR(t) threshold of 0.4MJ)		0	-
	THR _{600s} (MJ)		0.2	-
	LFS < edge of specimen		-	Compliant
	SMOGRA (m ² /s ²)		0	-
	TSP _{600s} (m ²)		10	-
	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s		-	Compliant
	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s		-	Compliant

(*) The results of this sample were re-used in the official test report No. 535080 (Issue 3) (as test specimen 1).

Note: '-' symbol confirms this parameter is not applicable.

Table 6 ISO 1716

Product name Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN ISO 1716: 2018	Average gross heat of combustion for NON-SUBSTANTIAL component, Q _{PCS}	3	0.7	-

Product name Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
531791 White topcoat	(MJ/m ²)			
EN ISO 1716: 2018 531795 Black topcoat	Average gross heat of combustion for NON-SUBSTANTIAL component, Q _{PCS} (MJ/m ²)	3	1.1	-
EN ISO 1716: 2018 531794 Red topcoat	Average gross heat of combustion for NON-SUBSTANTIAL component, Q _{PCS} (MJ/m ²)	3	1.1	-

Note: '-' symbol confirms this parameter is not applicable.

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018.

4.2 Classification

The product VitralDual" in relation to its reaction to fire behavior is classified as:

A1

The format of the reaction to fire classification for construction applications and flooring applications products is:

Fire behaviour

A1

Alternatively shown:

Reaction to fire classification: A1

4.3 Field of application

The classification for the product described in Section 2.2 of this report is valid for end-use applications described in Table 6.

Table 6 End-use applications

End use	Description	Origin
Substrate (Option 1)	Any wood based substrate with a density equal to or greater than 337.5kg/m ³ , having a minimum thickness of 8mm and a fire performance of D-s2, d0 or better Any substrate with a density equal to or greater than 337.5kg/m ³ , having a minimum thickness of 8mm and a fire performance of A2-s1, d0 or better.	As per EN 13238: 2010, clause 5.3 and EGOLF recommendation 045-2018.
Substrate (Option 2)	Any mineral wool substrate with a density equal of 30-70 kg/m ³ , having a thickness of 20-30 mm and a fire performance of A1.	As per EN 13238: 2010, clause 5.3.
Airgap	Valid for an air gap of 40 mm and more	As per EN 13823: 2020 + A1: 2022, clause 5.2.2.a.
Joints	Horizontal and vertical joints permitted	N/A
Joint widths	10mm and below	N/A

This classification is valid for the following product parameters:

- Topcoat application thickness: 15 – 30 microns (No variation allowed)
- Topcoat application rate: 0.032 – 0.059kg/m² (No variation allowed)
- Topcoat colour: any colour
- Primer application thickness: 5 – 10 microns (No variation allowed)
- Primer application rate: 0.01 – 0.02kg/m² (No variation allowed)
- Primer colour: White (No variation allowed)
- Aluminium thickness: 2 to 3mm (No variation allowed)
- Aluminium weight per unit area: 5.4 to 8.1kg/m² (No variation allowed)
- Rear coating application thickness: 8 microns (No variation allowed)
- Rear coating application rate: 0.016kg/m² (No variation allowed)
- Rear coating colour: Light grey (No variation allowed)
- Construction: No variation allowed
- Composition: No variation allowed
- Use of flame retardants: No variation allowed

4.4 Fire performance parameters for A1

All the products described in Section 2.2 and within the field of application defined in Section 4.3 comply with the fire performance parameters shown in Table 7. The test results can be found in Section 3.2.

Table 7 Fire performance parameters for A1

Test method	Parameter	Continuous parameters	Compliance with parameters
EN 13823: 2020 + A1: 2022	FIGRA (THR(t) threshold of 0.2MJ)	FIGRA _{0,2MJ} ≤ 120 W/s	-
	FIGRA (THR(t) threshold of 0.4MJ)	-	-
	THR _{600s} (MJ)	THR _{600s} ≤ 7.5 MJ	-
	Lateral flame spread to edge of test specimen?	-	LFS < edge of specimen
	SMOGRA (m ² /s ²)	SMOGRA ≤ 30m ² /s ²	-
	TSP _{600s} (m ²)	TSP _{600s} ≤ 50m ²	-
	Fall of flaming droplets/particles < 10s?	-	No flaming droplets/particles persisting shorter than 10 s in EN 13823 within 600s
	Fall of flaming droplets/particles > 10s?	-	No flaming droplets/particles persisting longer than 10 s in EN 13823 within 600s
EN ISO 1716: 2018	Average gross heat of combustion for substantial components of non-homogenous products, Q _{PCS} (MJ/kg)	PCS ≤ 2,0 MJ/kg	-
	Average gross heat of combustion per unit area for any external non-substantial component of non-homogenous products, Q _{PCS} (MJ/m ²)	PCS ≤ 2,0 MJ/m ²	Following parameters as per EN 13501-1: 2018, Table 1, footnote 'c'
	For the product as a whole, (MJ/kg)	PCS ≤ 2,0 MJ/kg	-
EN ISO 1182: 2020	Mass loss (%)	Δm ≤ 50 %	-
	Duration of sustained flaming (s)	t _f = 0 s (i.e. no sustained flaming)	-
	Average furnace temperature rise, ΔT (°C)	ΔT ≤ 30 °C	-

Note: '-' symbol confirms this parameter is not applicable.

5. Restrictions

At the time the standard EN 13501-1: 2018 was published, no decision was made about the duration of validity of a classification report.

When this report is used to support UKCA marking under the Construction Products Regulation 2011 (retained EU law EUR 2011/305) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 and/or 'CE+UK(NI)' marking for Northern Ireland under the Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011, the provisions of those regulations prevail over any conflicting provisions in the designated/harmonised standards and technical specifications.

6. Limitations

According to the information mentioned by the sponsor on the technical information sheet there was no harmonised product standard for UKCA or CE+UK(NI) marking available at the time the classification report for the tested material/product was drafted. When such a product standard is published, this report may be submitted again to the laboratory to evaluate the adequacy of the report for UKCA or CE+UK(NI) marking.

The test laboratory played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

7. Validity

This document is the original version of this classification report and is written in English. In case of doubt the original version prevails over a translation.

This document is issued subject to Warringtonfire's standard terms and conditions, which are available at: [Terms and Conditions | Element](#).

The classification results relate to the behaviour of a product under the particular conditions of the test(s); they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use, nor can the classification results be extrapolated and applied to other products, or imply suitability for use in configurations not specifically detailed in the classification report. The classification is based on the information available to Warringtonfire at the time of the report. Should conflicting or contradictory evidence become available, Warringtonfire reserves the right to unconditionally withdraw the classification report forthwith upon giving written notice of the same.

Reports are statements of fact prepared in accordance with the referenced version of the standards stated in Section 3 of this report. Test, classification and extended application are based upon the information provided to Warringtonfire. Warringtonfire takes no responsibility for the accuracy or completeness of such information.

The results stated in this classification report apply to the test specimens as received and/or specified in the referenced/supporting test reports. Any differences in composition, production process, thickness, density or colour of the product may significantly affect the performance and will therefore invalidate the application of the test and classification results to the variant product. It is recommended that any proposed variation to the tested configuration or product should be referred to the sponsor. The sponsor should then obtain appropriate documentary evidence of compliance from Warringtonfire or another accredited testing authority. The supplier of the product is responsible for ensuring that the product which is supplied for use is identical to the test specimens that were tested.

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