

Reaction to fire classification report

Issuing laboratory: WFRGENT NV

Classification standard: EN 13501-1: 2018

Sponsor(s): FLAMEOFF COATINGS INC.



Product(s): FR Clear

Report number: 23328C

Version: 1

WFRGENT NV, accredited for compliance with ISO/IEC 17025:2017 – Testing

Quality management

Version	Summary of amendments including reasons	
1	Description	Initial issue
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*Signed for and on behalf of WFRGENT NV		

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1. Introduction

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

WFRGENT NV (Warringtonfire) issued the classification report at the request of the sponsor listed in Table 1.

Table 1 Sponsor details

Entity	Address
Sponsor	
FLAMEOFF COATINGS INC.	3915 Beryl Rd, Suite 130, Raleigh, NC 27607 United States

2. Details of classified product

2.1 General

The product(s), FR Clear, are defined as being suitable for construction applications excluding floorings and linear pipe thermal insulation.

2.2 Product description

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

Table 2 Product description

	Nominal values (1)
FR Clear	
Type of product	Fire Inhibitor on water and phosphate basis. The fire inhibitor was delivered to the lab as a bottle of liquid. The lab applied the fire inhibitor onto a particle board substrate.
Manufacturer	(2)
Appearance	Liquid
Density (kg/m ³ ;wet)	1223
Solid content (weight %)	40
End-use application (prepared by the lab)	
<i>Application method</i>	Sprayed
<i>Wet applied amount per layer</i>	0,15l/m ²
<i>Dried weight (g/m²;dry)</i>	183
Use of fire retardants	Yes
Amounts of fire retardants (m/m %)	40
Colour	Transparent

(1) Based on the information given by the sponsor

(2) Known by the laboratory

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	FLAMEOFF COATINGS INC.	23328A	21 February 2024	EN ISO 11925-2: 2020
Warringtonfire	FLAMEOFF COATINGS INC.	23328B	21 February 2024, 04 March 2024	EN 13823: 2020 + A1: 2022

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 C - s1, d0 can be found in Table 6.

Table 4 Test data

Test method Report number	Parameter	Number of tests	Results	
			Continuous parameters	Compliance with parameters
EN ISO 11925-2: 2020 (30s exposure - Surface) 23328A	$F_s \leq 150\text{mm}$ within 60 s	6	-	Compliant
	No ignition of the paper		-	Compliant
EN ISO 11925-2: 2020 (30s exposure - Edge) 23328A	$F_s \leq 150\text{mm}$ within 60 s	6	-	Compliant
	No ignition of the paper		-	Compliant
EN 13823: 2020 + A1: 2022 23328B	FIGRA (THR(t) threshold of 0.2MJ)	3	238	-
	FIGRA (THR(t) threshold of 0.4MJ)		238	-
	THR _{600s} (MJ)		14.0	-
	LFS < edge of specimen		-	Compliant
	SMOGR _A (m ² /s ²)		2	-
	TSP _{600s} (m ²)		36	-
	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

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 FR Clear in relation to its reaction to fire behavior is classified as:

C

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 floorings and linear pipe thermal insulation products is:

Fire behaviour	Smoke production			Flaming droplets		
C	-	s	1	,	d	0

Alternatively shown:

Reaction to fire classification: C - s1, d0

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 5.

Table 5 End-use applications

End use	Description	Origin
Substrate	Any wood based substrate with a density equal to or greater than 510 kg/m ³ , having a minimum thickness of 10 mm and a fire performance of D-s2, d0 or better. Any substrate with a density equal to or greater than 510 kg/m ³ , having a minimum thickness of 10 mm and a fire performance of A2-s1, d0 or better.	As per EN 13238: 2010, clause 5.3 and EGOLF recommendation 045-2018.
Airgap	No air gap allowed	N/A
Joints	No joints permitted	N/A
Fixing method	The fire inhibitor is wet applied onto the substrate in an application rate of 0,15 l/m ² .	N/A
Orientation	Not applicable	N/A

This classification is valid for the following product parameters:

- Use of flame retardants: Yes (40 m/m %)
- Density: 1223 kg/m³
- Solid content: 40 m/m %
- Colour: transparent

4.4 Fire performance parameters for C - s1, d0

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 6. The test results can be found in Section 3.2.

Table 6 Fire performance parameters for C - s1, d0

Test method	Parameter	Continuous parameters	Compliance with parameters
EN ISO 11925-2: 2020 (30s exposure)	Extent of flame spread	-	Fs ≤ 150mm within 60 s
	Flaming droplets / particles that ignite filter paper	-	No ignition of the paper
EN 13823: 2020 + A1: 2022	FIGRA (THR(t) threshold of 0.2MJ)	-	-
	FIGRA (THR(t) threshold of 0.4MJ)	FIGRA _{0,4MJ} ≤ 250 W/s	-
	THR _{600s} (MJ)	THR _{600s} ≤ 15 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

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.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the 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 CE 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 CE 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.

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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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