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CLASSIFICATION

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

Classification no.	2019-Efectis-R001176
Sponsor	Intumescent Systems Ltd Envirograf House Barfrestone CT15 7JG DOVER UNITED KINGDOM
Product name	**ES/VFR/C with Excel clear top coat applied to plywood and other wood based substrates, thickness 9 mm**
Prepared by	Efectis Nederland BV
Notified body no.	1234
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Number of pages	5

1. INTRODUCTION

This classification report defines the classification assigned to **ES/VFR/C with Excel clear top coat applied to plywood, thickness 9 mm** in accordance with the procedures given in EN 13501-1:2018.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The product, **ES/VFR/C with Excel clear top coat applied to plywood and other wood based substrates, thickness 9 mm**, is defined as a ceiling- wall- and façade finish.

2.2 MANUFACTURER

Intumescent Systems Ltd
Envirograf House
Barfrestone
CT15 7JG DOVER
UNITED KINGDOM

2.3 PRODUCT DESCRIPTION

According to the sponsor the product is from inside out composed of:

- Layer of ES/VFR clear primer;
- 2 layers of ES/VFR/C;
- 2 layers of Excel clear top coat.

Applied to plywood, thickness 9 mm.

The product has a total thickness of 9 mm and a mass per unit area of approx. 4.4 kg/m^2.

3. STANDARDS, REPORTS, RESULTS AND CRITERIA IN SUPPORT OF THIS CLASSIFICATION

3.1 APPLICABLE (PRODUCT) STANDARDS

EN ISO 11925-2:2010/ C1:2011	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
EN 13823:2010+A1:2014	Reaction to fire tests for building products - Building products, excluding floorings exposed to the thermal attack by a single burning item
EN 13501-1:2018	Fire classification of construction products and building elements Part 1: Classification using data from reaction to fire tests
ETAG 028:2012	Guideline for European Technical Approval of Fire retardant products

3.2 REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Intumescent Systems Ltd Envirograf House UNITED KINGDOM	2019-Efectis-R001170 2019-Efectis-R001171	EN ISO 11925-2:2010 EN 13823:2014

3.3 TEST RESULTS

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – maximum	Compliance with parameters
EN ISO 11925-2				
surface flame impingement	Fs ≤150 mm	6	30	-
	Ignition of filter paper		-	Compliant
Edge flame Impingement	Fs ≤150 mm	6	30	-
	Ignition of filter paper		-	Compliant

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
	$FIGRA_{0.2MJ}$ [W/s]	3	33	-
	$FIGRA_{0.4MJ}$ [W/s]		29	-
	THR_{600s} [MJ]		2.8	-
	LFS < edge		-	Compliant
	SMOGRA [m^2/s^2]		7.1	-
	TSP_{600s} [m^2]		30	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		 - -	 Compliant Compliant

3.4 CLASSIFICATION CRITERIA

Fire classification of construction products and building elements Excluding floorings and linear pipe thermal insulation products			
Classification criteria			
Class Test method(s)	**B**	**C**	**D**
EN ISO 11925-2 Exposure = 30 s	$F_s \leq 150$ mm within 60 s Ignition of the paper in EN ISO 11925-2 results in a d2 classification.		
EN 13823	$FIGRA_{0.2\ MJ} \leq 120$ W/s LFS < edge of specimen $THR_{600s} \leq 7.5$ MJ	$FIGRA_{0.4\ MJ} \leq 250$ W/s LFS < edge of specimen $THR_{600s} \leq 15$ MJ	$FIGRA_{0.4\ MJ} \leq 750$ W/s
Additional classification			
Smoke production	**s1** = SMOGRA ≤ 30 m^2/s^2 and $TSP_{600s} \leq 50$ m^2 ; **s2** = SMOGRA ≤ 180 m^2/s^2 and $TSP_{600s} \leq 200$ m^2; **s3** = not s1 or s2		
Flaming Droplets/particles	**d0** = no flaming droplets/ particles in EN 13823 within 600 s; **d1** = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s; **d2** = not d0 or d1.		

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 11 of EN 13501-1:2018.

4.2 CLASSIFICATION

The product, **ES/VFR/C with Excel clear top coat applied to plywood and other wood based substrates, thickness 9 mm**, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

d0

Reaction to fire classification: B – s1, d0

4.3 FIELD OF APPLICATION

This classification is valid for the following product parameters:

Thickness (including substrate)	9 mm, minimum
Surface density (including substrate)	4.4 kg/m^2, minimum
Other properties	1 coat ES/VFR clear primer at 12 m^2 2 coats ES/VFR/C, both at 10 m^2 2 coats Excel clear topcoat, first at 8m^2, last at 10 m^2

This classification is valid for the following end use applications:

Substrate	Wood based substrates, thickness 9 mm minimum
Application	Ceiling-, wall- and façade finish
Air gap	Yes
Methods and means of applying	Painting
Joints	Yes
Other aspects of end use conditions	Closed surface, no openings or gaps between components

4.4 DURATION OF THE VALIDITY OF THIS CLASSIFICATION REPORT

There are no limitations in time on the validity of this report.

5. LIMITATIONS

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

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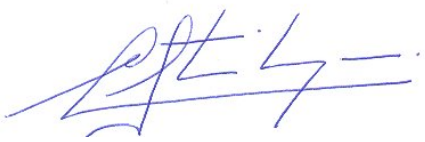
Junior Project leader reaction to fire



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