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CLASSIFICATION

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2007+A1:2009

Classification no.	2019-Efectis-R001506
Sponsor	Intumescent Systems Ltd Envirograf House Barfrestone CT15 7JG DOVER UNITED KINGDOM
Product name	**ES/VFR/W with Premier white top coat** for wood-based substrates
Prepared by	Efectis Nederland BV
Notified body no.	1234
Author(s)	A.J. Lock C.C.M. Steinhage B.Sc.
Project number	ENL-19-000538
Date of issue	October 2019
Number of pages	6

1. INTRODUCTION

This classification report defines the classification assigned to **ES/VFR/W with Premier white top coat,** for wood-based substrates, in accordance with the procedures given in EN 13501-1:2007+A1:2009.
The classification is based on previous test results determined in 2018 and test results of 2019. The process is initiated by the certification company The Catalonia Institute of Construction Technology (ITeC) in Barcelona for CE-marking of this product.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The product, **ES/VFR/W with Premier white top coat,** for wood-based substrates, 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 composed of:
- Coat 1 – layer of ES/VFR clear primer 12m^2;
- Coat 2 – layer of ES/VFR/W 10m^2;
- Coat 3 – layer of ES/VFR/W 10m^2;
- Coat 4 – layer of premier white top coat 8m^2;
- Coat 5 – layer of premier white top coat 8m^2.

Tested applied to plywood, thickness 9 mm and particle board, thickness 12 mm;
The tested product combination has a total thickness of 9 - 12 mm and a mass per unit area of approx. 4.4 - 8.5 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 13501-1:2007+A1:2009	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	2018-Efectis-R002111 2018-Efectis-R002112 2018-Efectis-R002182 2018-Efectis-R002183 2019-Efectis-R001233 2019-Efectis-R001205	EN ISO 11925-2:2010 EN ISO 11925-2:2010 EN 13823:2014 EN 13823:2014 EN ISO 11925-2:2010 EN 13823:2014
		2019-Efectis-R001219	Verification

3.3 TEST RESULTS

Table 1: Previous ignitibilty test results reports 2018-Efectis-R002111 and -R002112

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – maximum	Compliance with parameters
EN ISO 11925-2 particle board				
surface flame impingement	Fs ≤150 mm	6	35	-
	Ignition of filter paper		-	Compliant
edge flame impingement	Fs ≤150 mm	6	40	-
	Ignition of filter paper		-	Compliant
EN ISO 11925-2 plywood				
surface flame impingement	Fs ≤150 mm	6	30	-
	Ignition of filter paper		-	Compliant
edge flame impingement	Fs ≤150 mm	6	35	-
	Ignition of filter paper		-	Compliant

Table 2: Previous SBI test results report 2018-Efectis-R002182

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Particle board	$FIGRA_{0.2MJ}$ [W/s]	3	5	-
	$FIGRA_{0.4MJ}$ [W/s]		5	-
	THR_{600s} [MJ]		0.8	-
	LFS < edge		No	Compliant
	SMOGRA [m^2/s^2]		3.3	-
	TSP_{600s} [m^2]		39	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s			Compliant Compliant

Table 3: Previous SBI test results report 2018-Efectis-R002183

Test method and test number	Parameter		No. tests	Results	
				Continuous parameter – mean (m)	Compliance with parameters
EN 13823					
Plywood	$FIGRA_{0.2MJ}$	[W/s]	3	3	-
	$FIGRA_{0.4MJ}$	[W/s]		3	-
	THR_{600s}	[MJ]		0.3	-
	LFS < edge			No	Compliant
	SMOGRA	$[m^2/s^2]$		1.5	-
	TSP_{600s}	$[m^2]$		21	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s				Compliant Compliant

The following test results are limited data due to the verification purpose.

Table 4: Additional ignitibility test results report 2019-Efectis-R001233

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – maximum	Compliance with parameters
EN ISO 11925-2 plywood				
surface flame impingement	Fs ≤150 mm	2	45	-
	Ignition of filter paper		-	Compliant
Edge flame Impingement	Fs ≤150 mm	2	45	-
	Ignition of filter paper		-	Compliant

Table 5: Additional SBI test results report 2019-Efectis-R001205

Test method and test number	Parameter		No. tests	Results	
				Continuous parameter – mean (m)	Compliance with parameters
EN 13823					
Plywood	$FIGRA_{0.2MJ}$	[W/s]	1	13	-
	$FIGRA_{0.4MJ}$	[W/s]		13	-
	THR_{600s}	[MJ]		1.1	-
	LFS < edge			No	Compliant
	SMOGRA	$[m^2/s^2]$		1.3	-
	TSP_{600s}	$[m^2]$		42	-
	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 13501-1:2007+A1:2009.
The classification is based on previous test results and additional verification results. The verification of the test results is described in report 2019-Efectis-R001219.

4.2 CLASSIFICATION

The product, **ES/VFR/W with Premier white top coat,** for wood-based substrates, 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	9 mm minimum
Surface density (including substrate)	4.3 kg/m^2 minimum
Density (including substrate)	450 kg/m^3 minimum
Other properties	Coat 1 – layer of ES/VFR clear primer 12m^2;
	Coat 2 – layer of ES/VFR/W 10m^2;
	Coat 3 – layer of ES/VFR/W 10m^2;
	Coat 4 – layer of premier white top coat 8m^2;
	Coat 5 – layer of premier white top coat 8m^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 fixing	Painting
Joints	Yes
Other aspects of end use conditions	Closed surface, no openings or gaps between components

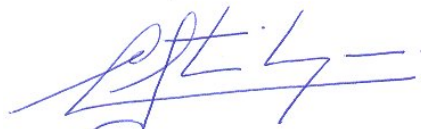## 4.4 DURATION OF THE VALIDITY OF THIS CLASSIFICATION REPORT

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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Project leader reaction to fire

This report consists of six pages and may only be used in its entirety.

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