

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

Classification no.	2022-Efectis-R000848
Sponsor	Nederlandse Branchevereniging voor de Timmerindustrie Sectie Trappen Westeinde 10 1334 BK ALMERE THE NETHERLANDS
Product name	<b>Impregnated Spruce, Oak, Beech and Sapeli (Mahogany) wood with white primer</b>
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Project number	ENL-21-000785
Date of issue	November 2022
Number of pages	7

### 1. INTRODUCTION

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This classification report defines the classification assigned to **Impregnated Spruce, Oak, Beech and Sapeli (Mahogany) wood with white primer** in accordance with the procedures given in EN 13501-1:2018.

### 2. DETAILS OF CLASSIFIED PRODUCT

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#### 2.1 GENERAL

The product, **Impregnated Spruce, Oak, Beech and Sapeli (Mahogany) wood with white primer**, will be used as a vertical staircase (riser) element.

#### 2.2 MANUFACTURER

Nederlandse Branchevereniging voor de Timmerindustrie  
Sectie Trappen  
Westeinde 10  
1334 BK ALMERE  
THE NETHERLANDS

#### 2.3 PRODUCT DESCRIPTION

According to the sponsor the product is composed of spruce wood (*Picea abies*).

The tested panels are:

- $37.6 \pm 0.4$  mm and have a density from  $400 \text{ kg/m}^3$  to  $500 \text{ kg/m}^3$ ;
- impregnated with Holzprof Fire Retardant Wood protection by 2 immersing it two times during 30 seconds; the impregnating agent yield is within the range of  $112 - 146 \text{ g/m}^2$ ;
- coated with Magma Industries, Fire Sheen 101 with a usage of  $306 - 356 \text{ g/m}^2$ .

Impregnated Oak (surface density  $26.5 \text{ kg/m}^2$ ), Beech (density  $25.9 \text{ kg/m}^3$  to  $28.2 \text{ kg/m}^3$ ) and Sapeli (Mahogany) (density  $25.2 \text{ kg/m}^3$ ) wood have also been tested and added to the field of applications with the parameters described in §4.3.

Impregnation was carried out with control from certification body SKH. The treatment report of these four species, Ref. 22/2851 BH/sg is kept on file by Efectis.

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

#### 3.1 APPLICABLE (PRODUCT) STANDARDS

EN ISO 11925-2:2020	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
EN 13823:2020	Reaction to fire tests for building products - Building products, excluding floorings exposed to the thermal attack by a single burning item
EN 13238:2010	Reaction to fire tests for building products - Conditioning procedures and general rules for selection of substrates
EN 13501-1:2018	Fire classification of construction products and building elements Part 1: Classification using data from reaction to fire tests
EN 13986:2004+A1:2015	Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking

#### 3.2 REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Nederlandse Branchevereniging voor de Timmerindustrie THE NETHERLANDS	2022-Efectis-R000654 2022-Efectis-R000765	EN ISO 11925-2:2020 EN 13823:2020

#### 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	40	-
	Ignition of filter paper		-	Compliant
Edge flame Impingement	Fs ≤150 mm	6	15	-
	Ignition of filter paper		-	Compliant

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Impregnated Spruce wood with white primer	FIGRA <sub>0.2MJ</sub> [W/s]	3	12	-
	FIGRA <sub>0.4MJ</sub> [W/s]		0	-
	THR <sub>600s</sub> [MJ]		0.9	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		0.0	-
	TSP <sub>600s</sub> [m²]		43	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Impregnated Oak with white primer	FIGRA <sub>0.2MJ</sub> [W/s]	1	0	-
	FIGRA <sub>0.4MJ</sub> [W/s]		0	-
	THR <sub>600s</sub> [MJ]		0.7	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		0.0	-
	TSP <sub>600s</sub> [m²]		35	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Impregnated Beech with white primer	FIGRA <sub>0.2MJ</sub> [W/s]	1	0	-
	FIGRA <sub>0.4MJ</sub> [W/s]		0	-
	THR <sub>600s</sub> [MJ]		0.7	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		0.0	-
	TSP <sub>600s</sub> [m²]		34	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Impregnated Sapeli (Mahogany) wood with white primer	FIGRA <sub>0.2MJ</sub> [W/s]	1	5	-
	FIGRA <sub>0.4MJ</sub> [W/s]		5	-
	THR <sub>600s</sub> [MJ]		0.0	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		0.0	-
	TSP <sub>600s</sub> [m²]		35	-
	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
<b>EN ISO 11925-2</b> Exposure = 30 s	F <sub>s</sub> ≤ 150 mm within 60 s Ignition of the paper in EN ISO 11925-2 results in a d2 classification.		
<b>EN 13823</b>	FIGRA <sub>0.2 MJ</sub> ≤ 120 W/s LFS < edge of specimen THR <sub>600s</sub> ≤ 7.5 MJ	FIGRA <sub>0.4 MJ</sub> ≤ 250 W/s LFS < edge of specimen THR <sub>600s</sub> ≤ 15 MJ	FIGRA <sub>0.4 MJ</sub> ≤ 750 W/s
Additional classification			
Smoke production	<b>s1</b> = SMOGRA ≤ 30 m <sup>2</sup> /s <sup>2</sup> and TSP <sub>600s</sub> ≤ 50 m <sup>2</sup> ; <b>s2</b> = SMOGRA ≤ 180 m <sup>2</sup> /s <sup>2</sup> and TSP <sub>600s</sub> ≤ 200 m <sup>2</sup> ; <b>s3</b> = not s1 or s2		
Flaming Droplets/particles	<b>d0</b> = no flaming droplets/ particles in EN 13823 within 600 s; <b>d1</b> = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s; <b>d2</b> = 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, **Impregnated Spruce, Oak, Beech and Sapeli (Mahogany) wood with white primer**, 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:

##### General

Thickness	37.6 ± 0.4 mm and greater thicknesses
Impregnation reference	Holzprof Fire Retardant Wood protection
Impregnation method	Two 30 seconds immersions
Coating reference	Magma Industries, Fire Sheen 101
Coating usage	306 – 356 g/m <sup>2</sup>

##### Wood species:

###### Spruce wood (*Picea abies*)

Surface density (as stated by the sponsor)	From 15.04 kg/m <sup>2</sup> to 18.8 kg/m <sup>2</sup>
Impregnation usage	From 112 g/m <sup>2</sup> to 146 g/m <sup>2</sup>

###### Oak wood (*Quercus robur*)

Surface density (average)	26.5 kg/m <sup>2</sup>
Impregnation usage	From 98 g/m <sup>2</sup> to 131 g/m <sup>2</sup>

###### Beech wood (*Fagus sylvatica*)

Surface density (as stated by the sponsor)	From 25.9 kg/m <sup>2</sup> to 28.2 kg/m <sup>2</sup>
Impregnation usage	From 340 g/m <sup>2</sup> to 416 g/m <sup>2</sup>

###### Sapeli (Mahogany) wood (*Entandrophragma cylindricum*)

Surface density (average)	25.2 kg/m <sup>2</sup>
Impregnation usage	From 85 g/m <sup>2</sup> to 111 g/m <sup>2</sup>

This classification is valid for the following end use applications:

Substrate	Not applicable
Application	as the vertical part (riser) of a staircase construction
Joints	None
Other aspects of end use conditions	Used in combination with horizontal element to form a staircase

#### 4.4 DURATION OF THE VALIDITY OF THIS CLASSIFICATION REPORT

Consult classification standard and national laws and regulations for limitations on the period of validity of the classification.

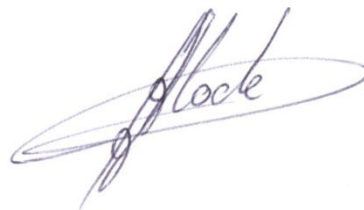
#### 5. LIMITATIONS

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



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