

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

Classification no.	2022-Efectis-R000210[Rev.1]
Sponsor	Foreco Houtproducten BV Dalmsholterweg 5 7720 AB DALFSEN THE NETHERLANDS
Product name	Wood cladding Spruce, Pine, Nobelwood and Larch with open joint treated with Woodsafe Exterior WFX dimensions 18 x 68 mm
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1. INTRODUCTION

1.1 PRODUCT NAME

This classification report defines the classification assigned to **wood cladding Spruce, Pine, Nobelwood and Larch with open joint treated with Woodsafe Exterior WFX, dimensions 18 x 68 mm** in accordance with the procedures given in EN 13501-1:2018.

This is a revised version of this report. This version supersedes all previous versions of this reports that are hereby withdrawn. Details on the changes can be found in the tables below.

Table 1.1: Revision information

Issue	Date of issue	Report no.
First issue	April 2022	2022-Efectis-R000210
First revision	March 2023	2022-Efectis-R000210[Rev.1]

Table 1.2: First revision information

Chapter of revision	2.3 Family product description
Reason of revision	Adding of more configurations
Consequences of revision	Realize a wider field of application
Chapter of revision	3.1 Applicable (product) standards
Reason of revision	Add extended field of application standard
Consequences of revision	Reference to wider field of application aspects
Chapter of revision	3.2 Direct application reports
Reason of revision	Modification of the indicated test reports
Consequences of revision	Listing of the right test reports
Chapter of revision	3.3 Extended application reports
Reason of revision	Add reference to new test report
Consequences of revision	Wider field of application
Chapter of revision	3.4 Test results
Reason of revision	Add new test results
Consequences of revision	Wider field of application

1.2 ASSESSMENT INFORMATION

Efectis compared the two versions of the EN 11925 standard and concluded that the result from the tests according to the EN 11925-2:2010/C1:2011 standard is still valid according to the EN 11925-2:2020 standard. Therefore, this report can be used for classification according to EN 13501-1:2018.

Efectis compared the two versions of the EN 13823 standard and concluded that the result from the tests according to the EN 13823:2010+A1:2014 standard is still valid according to the EN 13823:2020 standard. Therefore, this report can be used for classification according to EN 13501-1:2018.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The product, **wood cladding Spruce, Pine, Nobelwood and Larch with open joint treated with Woodsafe Exterior WFX, dimensions 18 x 68 mm**, is defined as a façade cladding. The product is available in Spruce, Pine, Nobelwood and Larch.

2.2 MANUFACTURER

Foreco Houtproducten BV
Dalmsholterweg 5
7720 AB DALFSEN
THE NETHERLANDS

2.3 PRODUCT (-FAMILY) DESCRIPTION

Fire retardant treated solid wood, for use in constructions. The fire retardant is applied to the solid wood in a vacuum-pressure impregnation process. The definition of arto/arto is the percentage amount of dry fire-retardant chemicals in respect to the amount of dry wood. The name of the fire retardant is SafeWood FRX (Woodsafe Exterior WFX). Dimensions of the lamella is 18x68 mm. The lamella has an open-joint (gap between the panels) of ≤ 10 mm.

Table 1: Product / wood species

Product / species	Density (kg/m ³)	Amount of fire retardant in arto/arto (%)
Spruce	460-500	6.8
Pine	500-700	8.2
Larch	650-700	5.0
NobelWood	460-500	6.8

Panels are mechanically mounted on Foreco Nordic Spruce battens SafeWood Color black. The battens are typically vertical 18x45 mm + horizontal 28x45 mm for vertical oriented panels and vertical 28x45 mm for horizontal oriented panels. The total thickness of the Nordic Spruce battens is ≤ 46 mm and the density is 480 kg/m³.

A fiber cement building panel (Cembrit Windstopper Extreme) with a thickness ≥ 4.5 mm and a dry density ≥ 1300 kg/m³ is applied between the battens and the sub structure.

The substructure may consist of wooden beams of any dimensions with Kooltherm K15 insulation material between the beams. The λ D-value of the insulation material should be ≥ 0.021 W/(m.K) or an Rd ≤ 4.7 W/(m²K).

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

3.1 APPLICABLE (PRODUCT) STANDARDS

EN ISO 11925-2:2020/2010	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
EN 13823:2020/2014	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 14915:2013+A2:2020	Solid wood panelling and cladding – characteristics, requirements and marking
CEN/TS 15117:2005	Guidance on direct and extended application

3.2 DIRECT APPLICATION REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Foreco Houtproducten BV THE NETHERLANDS	2022-Efectis-R000205 2022-Efectis-R000206 2022-Efectis-R000207[Rev.1] 2022-Efectis-R000208 2023-Efectis-R000420	EN ISO 11925-2:2020 EN 13823:2020
RISE Research Institutes of Sweden AB SWEDEN	Foreco Houtproducten BV THE NETHERLANDS	9P01687-1 9P05377-1 9P01687-3	EN ISO 11925-2:2010 EN 13823:2014

3.3 EXTENDED APPLICATION REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Foreco Houtproducten BV THE NETHERLANDS	2022-Efectis-R000305	CEN/TS 15117:2005

3.4 TEST RESULTS

3.4.1 Ignitibility test reports 2022-Efectis-R000205

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – maximum	Compliance with parameters
EN ISO 11925-2				
Surface flame Impingement Spruce	Fs ≤150 mm	6	40	-
	Ignition of filter paper		-	Compliant
Edge flame Impingement Spruce	Fs ≤150 mm	6	40	-
	Ignition of filter paper		-	Compliant

3.4.2 Ignitibility test reports 2022-Efectis-R000206

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – maximum	Compliance with parameters
EN ISO 11925-2				
Surface flame Impingement Pine	Fs ≤150 mm	6	60	-
	Ignition of filter paper		-	Compliant
Edge flame Impingement Pine	Fs ≤150 mm	6	70	-
	Ignition of filter paper		-	Compliant

3.4.3 Ignitibility test report 9P01687-1

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

3.4.4 Single Burning Item test report 2022-Efectis-R000207[Rev.1]

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Pine vertical	FIGRA _{0.2MJ} [W/s]	3	41	-
	FIGRA _{0.4MJ} [W/s]		41	-
	THR _{600s} [MJ]		2.9	-
	LFS < edge		-	Compliant
	SMOGRA [m ² /s ²]		16.2	-
	TSP _{600s} [m ²]		115	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Pine horizontal	FIGRA _{0.2MJ} [W/s]	1	15	-
	FIGRA _{0.4MJ} [W/s]		15	-
	THR _{600s} [MJ]		2.5	-
	LFS < edge		-	Compliant
	SMOGRA [m ² /s ²]		22.5	-
	TSP _{600s} [m ²]		193	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.4.5 Single Burning Item test report 2022-Efectis-R000208 (Spruce vertical)

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Spruce vertical	FIGRA _{0.2MJ} [W/s]	3	35	-
	FIGRA _{0.4MJ} [W/s]		35	-
	THR _{600s} [MJ]		3.0	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		17.7	-
	TSP _{600s} [m²]		95	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.4.6 Single Burning Item test report 2022-Efectis-R000208 (Spruce horizontal)

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Spruce horizontal	FIGRA _{0.2MJ} [W/s]	1	23	-
	FIGRA _{0.4MJ} [W/s]		23	-
	THR _{600s} [MJ]		2.0	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		19.5	-
	TSP _{600s} [m²]		124	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.4.7 Single Burning Item test report 9P01687-3

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Nobelwood vertical	FIGRA _{0.2MJ} [W/s]	3	37	-
	FIGRA _{0.4MJ} [W/s]		36	-
	THR _{600s} [MJ]		3.4	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		9.4	-
	TSP _{600s} [m²]		87	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.4.8 Single Burning Item test report 9P05377-1

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Siberian Larch vertical	FIGRA _{0.2MJ} [W/s]	3	80	-
	FIGRA _{0.4MJ} [W/s]		80	-
	THR _{600s} [MJ]		5.3	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		11	-
	TSP _{600s} [m²]		68	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.4.9 Single Burning Item test report 2023-Efectis-R000420

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Siberian Larch with windstopper and insulation	FIGRA _{0.2MJ} [W/s]	1	109	-
	FIGRA _{0.4MJ} [W/s]		109	-
	THR _{600s} [MJ]		7.5	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		2.3	-
	TSP _{600s} [m²]		20	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

3.5 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 ≤ 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} ≤ 120 W/s LFS < edge of specimen THR _{600s} ≤ 7.5 MJ	FIGRA _{0.4 MJ} ≤ 250 W/s LFS < edge of specimen THR _{600s} ≤ 15 MJ	FIGRA _{0.4 MJ} ≤ 750 W/s
Additional classification			
Smoke production	s1 = SMOGRA ≤ 30 m ² /s ² and TSP _{600s} ≤ 50 m ² ; s2 = SMOGRA ≤ 180 m ² /s ² and TSP _{600s} ≤ 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, **wood cladding Spruce, Pine, Nobelwood and Larch with open joint treated with Safewood FRX (Woodsafe Exterior WFX) dimensions 18 x 68 mm**, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s2

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

d0

Reaction to fire classification: B – s2, d0

4.3 FIELD OF APPLICATION

This classification is valid for the following product parameters:

Thickness	18 mm
open-joint width	≤10 mm (after mounting)
Panel width	≥68 mm
Orientation	Horizontal and vertical
Wood type	Available in Spruce, Pine, Nobelwood and Larch
Surface density	Spruce: 460-500 kg/m ³ ; Pine: 500-700 kg/m ³ ; Larch: 650-700 kg/m ³ ; Nobelwood: 460-500 kg/m ³ .
Retention percentage arto/arto	Spruce: 6.8 %; Pine: 8.2 %; Larch: 5.0 %; Nobelwood: 6.8 %.

This classification is valid for the following end use applications:

Substrate	Non-combustible (class A1/A2, 870 ± 50 kg/m ³ , according to EN 13238:2010)
Air gap	Yes, 40 to 80 mm between front and substrate
Methods and means of fixing	Mechanically fixed on Foreco Nordic Spruce battens SafeWood Color Black: <ul style="list-style-type: none">• Vertical: vertical 18x45 mm + horizontal 28x45 mm battens;• Horizontal: vertical 28x45 mm battens. <p>The total thickness of the Nordic Spruce battens is ≤ 46 mm and the density is 480 kg/m³</p>
Joints	Yes, horizontal and vertical
Other aspects of end use conditions	Open surface

4.4 EXTENDED FIELD OF APPLICATION

The extended field of application shall be read in combination with the conclusions in the EXAP report 2023-Efectis-R000305.

Accordance to the statements of CEN/TS 15117:2005, Subclause 6.2.2. made in the EXAP report, the classification is also valid for the following claddings.

- Siberian Larch cladding with fibre cement building panel (Cembrit Windstopper Extreme) and K15 Kooltherm insulation;
- Spruce, Pine or Nobelwood cladding in front of fiber cement building panel (Cembrit Windstopper Extreme, thickness ≥ 4.5 mm and a density of ≥ 1300 kg/m³) and K15 Kooltherm insulation;
- All claddings with the retention percentages indicated in paragraph 2.3;
- Mentioned claddings and Cembrit Windstopper Extreme with all types of insulation (except EPS) with a λ D-value of ≥ 0.021 W/(m.K) or an Rd value of ≤ 4.7 W/m².K.

Due to Dutch regulations, a classification based on the EXAP report 2023-Efectis-R000305 cannot be part of the accredited section of this document.

Based on common practice agreed by the group of Notified Bodies EXAP reports and following classification will be judged based on two criteria:

- 1) Is the EXAP issued by a laboratory that performed at least one of the supported tests;
- 2) Is the laboratory who issued the EXAP accredited for the respective test standard.

For this report Efectis Nederland fulfils both criteria.

4.5 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

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

The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of system 3 **Assessment and Verification of Consistency of Performance (AVCP)** and **CE marking** under the **Construction Products Regulation**.

The manufacturer has made a declaration, which is held on file. This confirms that the components of product's design are purchased as system 1 AVCP components with specific fire performance (addition of flame-retardants, organic content or fillers). The components will be assembled to the required product combination. As a consequence the manufacturer has concluded that system 3 AVCP is appropriate.

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

