

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

Classification no.	2021-Efectis-R001349
Sponsor	Kebony AS Hoffsveien 48 NO-0377 OSLO NORWAY
Product name	Kebony Clear Internal and External usage
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1. INTRODUCTION

This classification report defines the classification assigned to **Radiata Pine** in accordance with the procedures given in EN 13501-1:2018.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The product, **Kebony Clear**, is defined as an internal and external façade build-up structure or wall covering.

2.2 MANUFACTURER

Kebony AS
Hoffsveien 48
NO-0377 OSLO
NORWAY

2.3 PRODUCT DESCRIPTION

Product description:

- Kebony Clear, based on Radiata Pine (*Pinus Radiata*), with a start density of 480 ± 50 kg/m³. The panels are profiled to a shiplap cladding with dimension 19x120 mm and a working width of 102 mm;
 - The panels are chemically modified according to Kebony's furfurylation process. A furan polymer is added to the sapwood portion of the cladding board. This results in an average density of 660 ± 45 kg/m³.
- The Radiata pine is applied onto spruce wooden beams, supplier Bergene Holm, with dimensions 40x40 mm and a density of 450 ± 50 kg/m³.

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 14915:2013+A2:2020	Solid wood Panelling and cladding – characteristics, requirements and marking

3.2 REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Kebony AS NORWAY	2021-Efectis-R001347 2021-Efectis-R001260	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	45	-
	Ignition of filter paper		-	Compliant

Test method and test number	Parameter	No. tests	Results	
			Continuous parameter – mean (m)	Compliance with parameters
EN 13823				
Vertical internal usage	FIGRA _{0.2MJ} [W/s]	3	303	-
	FIGRA _{0.4MJ} [W/s]		303	-
	THR _{600s} [MJ]		29.8	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		11.3	-
	TSP _{600s} [m²]		147	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Vertical external usage	FIGRA _{0.2MJ} [W/s]	1	195	-
	FIGRA _{0.4MJ} [W/s]		195	-
	THR _{600s} [MJ]		14.1	-
	LFS < edge		-	Compliant
	SMOGRA [m²/s²]		8.5	-
	TSP _{600s} [m²]		61	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant

Horizontal internal usage	FIGRA _{0.2MJ} [W/s]	1	276	-
	FIGRA _{0.4MJ} [W/s]		276	-
	THR _{600s} [MJ]		16.9	-
	LFS < edge		-	Compliant
	SMOGRA [m ² /s ²]		3.6	-
	TSP _{600s} [m ²]		32	-
	Flaming debris - flaming ≤ 10 s - flaming > 10 s		- -	Compliant Compliant
Horizontal external usage	FIGRA _{0.2MJ} [W/s]	1	192	-
	FIGRA _{0.4MJ} [W/s]		192	-
	THR _{600s} [MJ]		12.7	-
	LFS < edge		-	Compliant
	SMOGRA [m ² /s ²]		7.2	-
	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 ≤ 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, **Kebony Clear**, in relation to its reaction to fire behaviour is classified:

D

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: D – s2, d0

4.3 FIELD OF APPLICATION

This classification is valid for the following product parameters:

Thickness	19 mm
Overall density	660 kg/m ³
Other properties	Radiata Pine (<i>Pinus Radiata</i>), which are profiled to a shiplap cladding with dimensions 19x120 mm and a working width of 102 mm. Radiata Pine is chemically modified according to Kebony's furfurylation process.

This classification is valid for the following end use applications:

Substrate	Non-combustible (Minimum class A2 according to EN 13238:2010)
Application	applied with non-treated spruce wooden beams of 40x40 mm and a density of 450±50 kg/m ³ .
Air gap	Yes
Methods and means of fixing	Mechanically fixed
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

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

5. LIMITATIONS

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 product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. 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.



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