

Reaction to fire testing of impregnated Sapeli (Mahogany) wood with a white primer Ignitability test according to EN ISO 11925-2:2020

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Sponsor	Nederlandse Branchevereniging voor de Timmerindustrie Sectie Trappen Westeinde 10 1334 BK ALMERE THE NETHERLANDS
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1. PRODUCT IDENTIFICATION

Impregnated Sapeli (Mahogany) wood with a white primer, further referred to as ‘the product’.

2. ABSTRACT

Determination of the **ignitability** properties of the product, by **direct small flame impingement** according to EN ISO 11925-2:2020, with the objective to obtain the reaction to fire classification according to EN 13501-1:2018.

3. DETAILS OF THE PRODUCT TESTED

3.1 INTENDED APPLICATION

The product will be used as the parts of a staircase construction.

3.2 MANUFACTURER

Nederlandse Branchevereniging voor de Timmerindustrie
Sectie trappen
Westeinde 10
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3.3 PRODUCT DESCRIPTION

According to the sponsor the product is composed of Sapeli (Mahogany) (*Entandrophragma cylindricum*).

The tested panels are:

- 37.6 ± 0.4 mm and have a density of 671 kg/m^3 ;
- impregnated with Holzprof Fire Retardant Wood protection by 2 immersing it two times during 30 seconds; the impregnating agent usage is from 85 g/m^2 to 111 g/m^2 ;
- coated with Magma Industries, Fire Sheen 101 with a usage of $306 - 356 \text{ g/m}^2$.

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

4. DETAILS OF THE EXAMINATION

4.1 SAMPLES

Sampling procedure	The specimens were submitted and prepared and submitted by the sponsor.
Age	At the time of receipt: no information received.
Date of receipt	March 23 rd 2022

4.2 SPECIMEN PREPARATION

Substrate used	Not applicable
Method of fixing	Not applicable

4.3 CONDITIONING

Prior to the examinations, the specimens were conditioned over a period of two weeks minimum at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) % according to § 4.1 of EN 13238.

4.4 EXAMINATION

Number of tests	A total of twelve single ignitability tests were carried out according to EN ISO 11925-2.
Deviations from the test method	None
Date of examination	May 10 th 2022
Location of examination	Efectis Nederland BV, Bleiswijk, The Netherlands
Performed by	LEG

The results are given in Table 1, Appendix: Results.

5. CONCLUSIONS

A formal classification is to be assessed in accordance with EN 13501-1, "Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests".

Remarks:

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Regarding the precision of the test method, following Annex B of EN ISO 11925-2, the absolute repeatability/reproducibility for this test method is estimated to lie within 3 s to 5 s for all times measured.



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Project leader Reaction to Fire



A.J. Lock
Manager Testing Reaction to Fire

APPENDIX: RESULTS

Table 1: Ignitability classification parameter results

Flame application time: 30 s					
Sample	Ignition of sample	Maximum flame Height	t ₁₅₀	Afterburning time	Ignition of filter paper
	{Y=Yes/N=No}	[mm]	[s]	[s]	{Y=Yes/N=No}
Surface ignition					
1	Y	35	not reached	0	N
2	Y	40		0	N
3	Y	30		0	N
4	Y	35		0	N
5	Y	30		0	N
6	Y	30		0	N
Maximum	Y	40			
Classification parameters		150 mm reached within 60 s			N
		Ignition of filter paper			N
Edge ignition					
1	Y	10	not reached	0	N
2	Y	20		0	N
3	Y	20		0	N
4	Y	10		0	N
5	Y	20		0	N
6	Y	15		0	N
Maximum		20			
Classification parameters		150 mm reached within 60 s			N
		Ignition of filter paper			N

Observations of physical behaviour of the test specimen: None.