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AB 1501

TEST REPORT

Order no: 30.04.2021 Signature: SL/Z-282/EN13823/303a/2021 Police, 06.05.2021

Test methods:

1. EN 13823:2020. Reaction to fire tests of building products – Building products excluding floorings exposed to the thermal attack by a single burning item.
2. EN ISO 11925-2:2010. Reaction to fire tests – Ignitability of products subjected do direct impingement of flame – Part 2: Single-flame source test.

Content of request: Research according to EN 13501-1:2018.

Sponsor: Bydgoskie Zakłady Sklejek "Sklejka Multi" Spółka Akcyjna
ul. Fordońska 154
85-752 Bydgoszcz
Poland

Material: Flame-retardant brich plywood, min. thickness 12 mm, density 650-750 kg/m^3

Composition: Plywood made on the basis of melamine-urea-formaldehyde resin. Outer and inner layers - brich wood. Inner layers are impregnated by soaking an a 15% flame retardant solution. The dry matter content of the flame retardant in 1 m^3 of plywood - min. 40 kg. The plywood surface is protected with a flame retardant applied by spraying in the amount of min. 100 g/m^2.

Manufacturer/supplier: Bydgoskie Zakłady Sklejek "Sklejka Multi" Spółka Akcyjna
ul. Fordońska 154
85-752 Bydgoszcz
Poland

Assessment: The tested product fulfils the requirements of **B-s1,d0** class according to EN 13501-1:2018.

Report applies only to the sample tested and is not necessarily indicative of the qualities of apparently identical or similar products.

Content of test report: nine pages with signature and numbers.

1. Reaction to fire tests of building products according to EN 13823

1.1. Heat release rate

Name of measured quantity	Unit	Specimen			Average	Standard deviation
		1	2	3		
Duration of the test	s	1560	1560	1560	1560	0,00
Maximum heat release rate	kW	1560	1560	1560	1560	0
Total heat release THR	MJ	30,4	26,3	30,3	29,0	2,4
Total heat release in the first 600 s – THR_{600s}	MJ	14,7	11,5	13,2	13,1	1,6
Fire growth rate index $FIGRA_{0,2MJ}$	$W \cdot s^{-1}$	3,9	3,2	3,4	3,5	0,3
Fire growth rate index $FIGRA_{0,4MJ}$	$W \cdot s^{-1}$	48	46	48	47	1

Remarks: none.

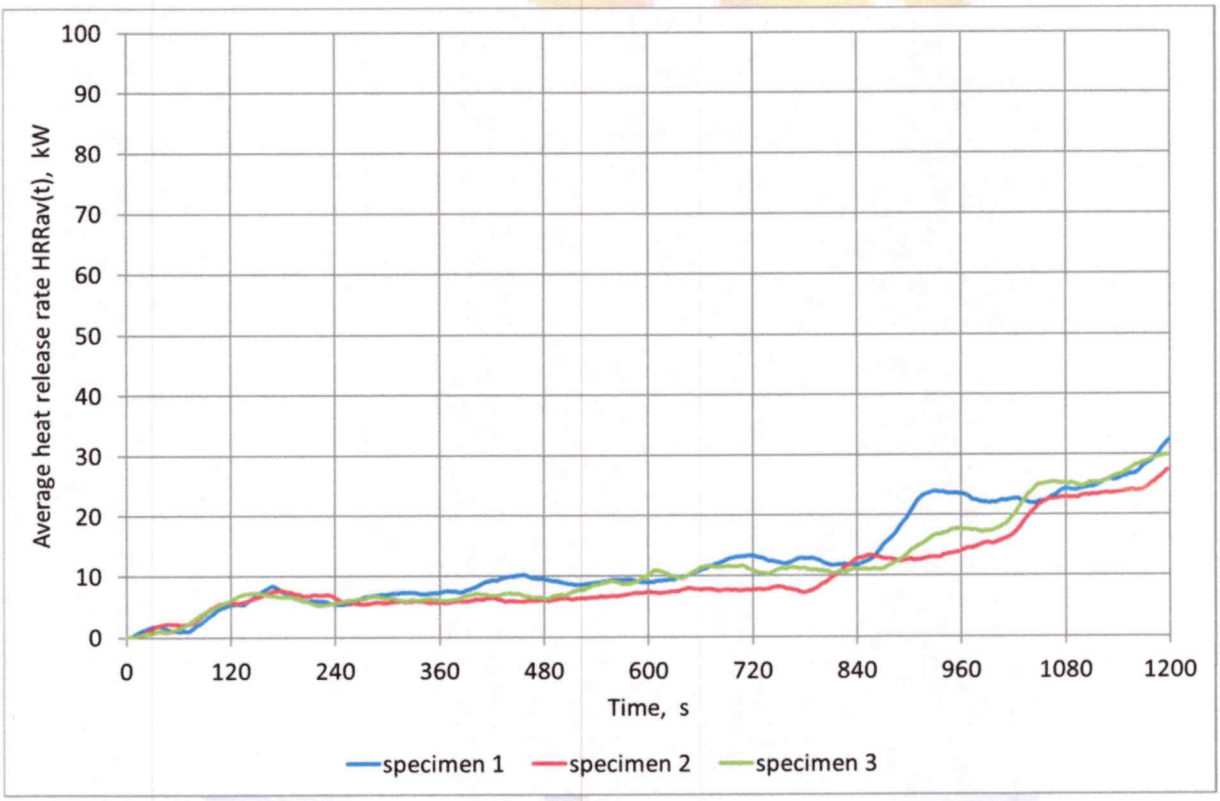


Figure 1.1. Average heat release rate $HRR_{av}(t)$, kW

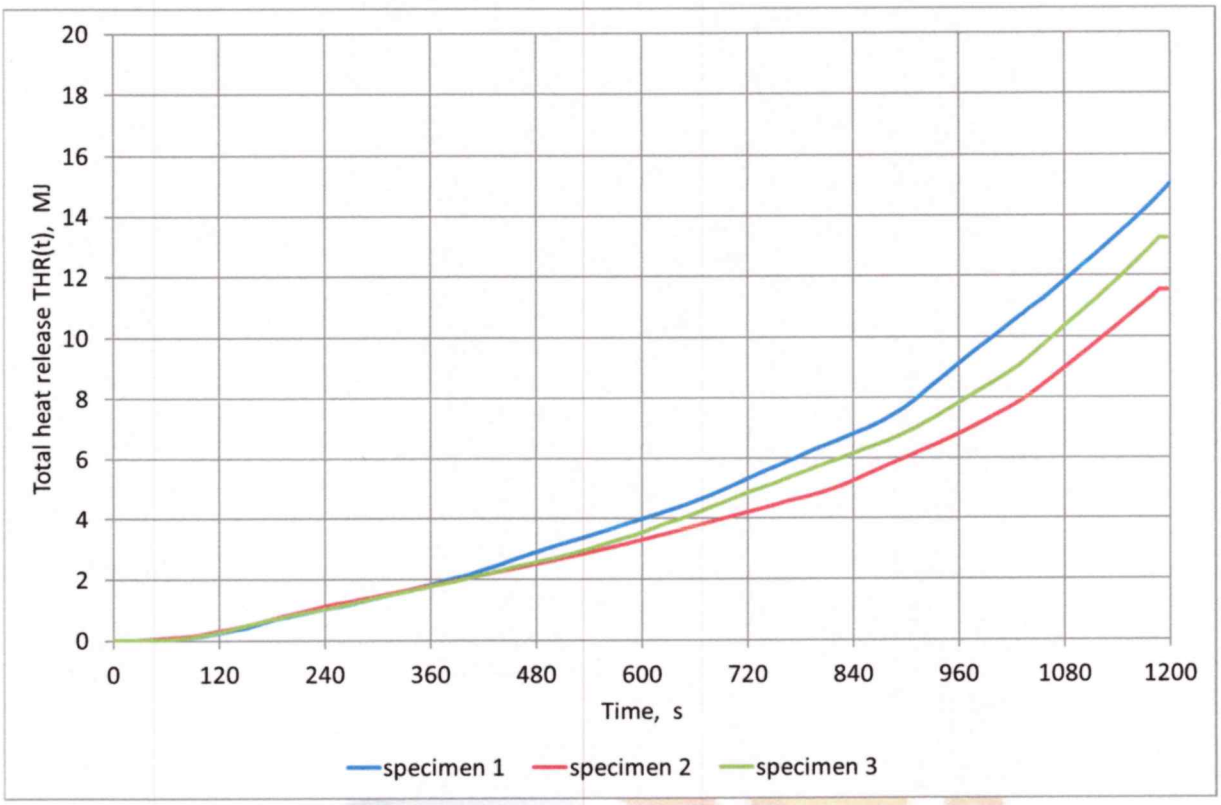


Figure 1.2. Total heat release THR(t), MJ

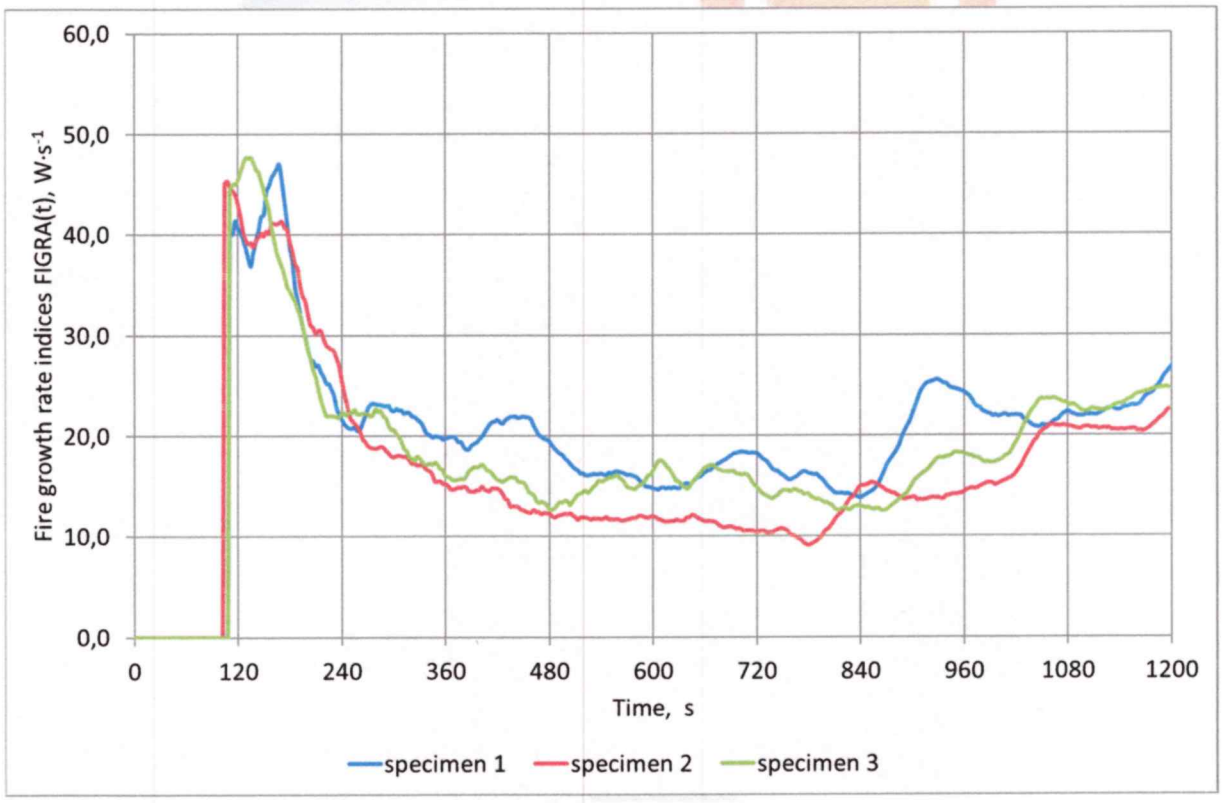


Figure 1.3. Fire growth rate index FIGRA(t), $W \cdot s^{-1}$

1.2. Smoke production rate

Name of measured quantity	Unit	Specimen			Average	Standard deviation
		1	2	3		
Maximum light attenuation	%	43,2	36,0	37,5	38,9	3,8
Max. smoke production rate SPR	$m^2 \cdot s^{-1}$	0,9	0,8	0,8	0,8	0,1
Total smoke production - TSP	m^2	253	274	193	240	42
Total smoke production in the first 600 s - TSP_{600s}	m^2	42	48	35	41	6
Smoke growth rate index SMOGRA	$m^2 \cdot s^{-2}$	8	7	7	7	1

Remarks: none.

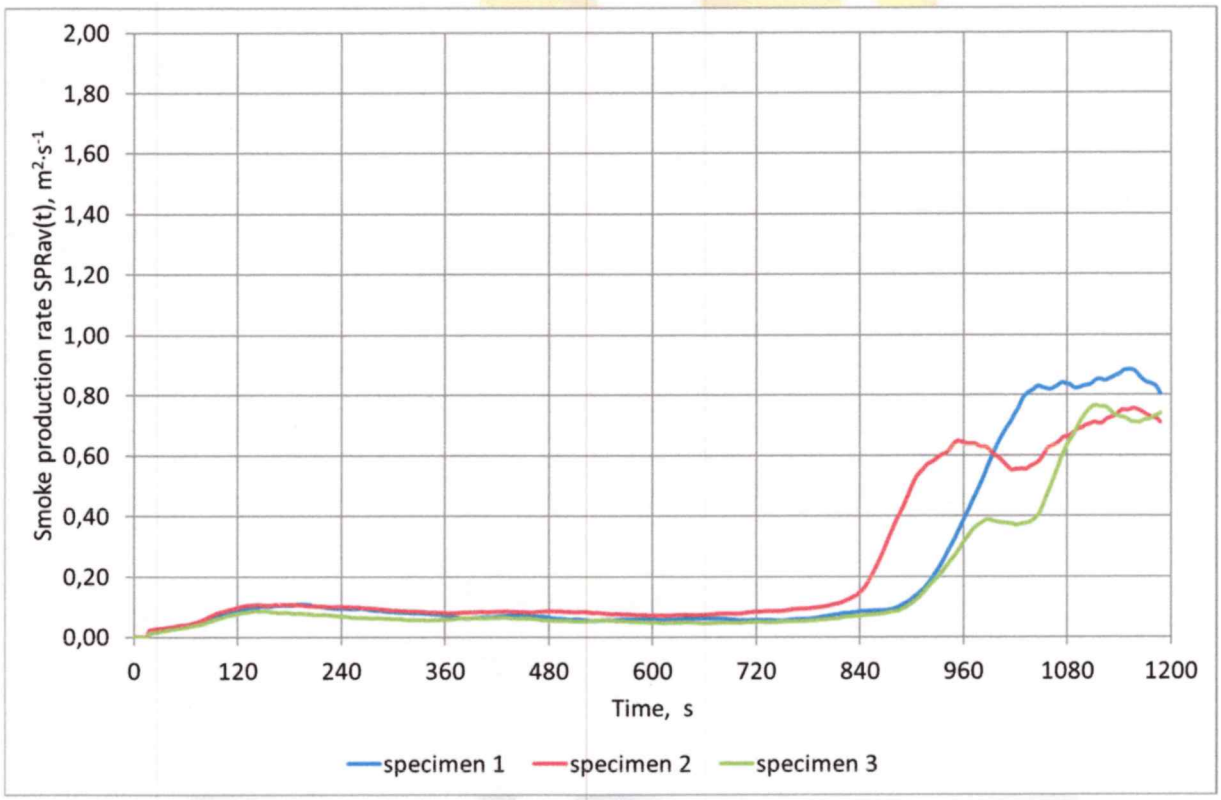


Figure 1.4. Smoke production rate $SPR_{av}(t)$, $m^2 \cdot s^{-1}$

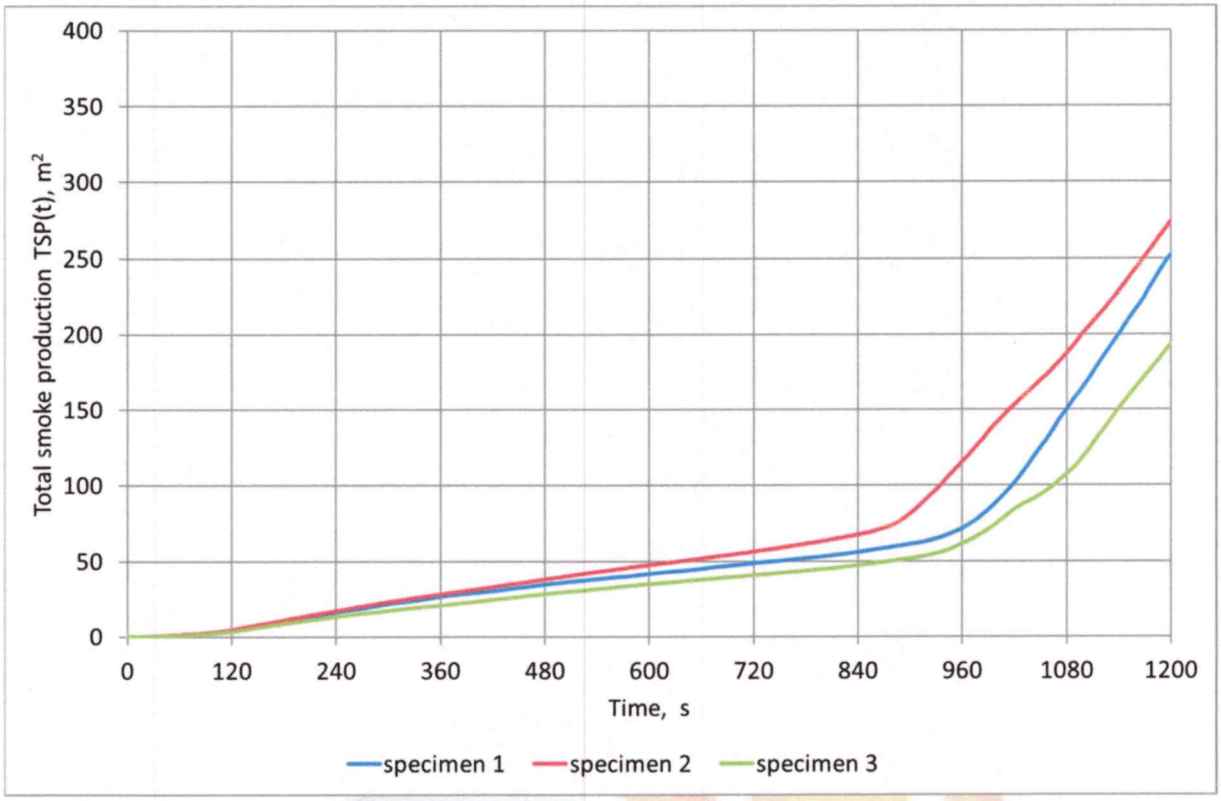


Figure 1.5. Total smoke production TSP(t), m^2

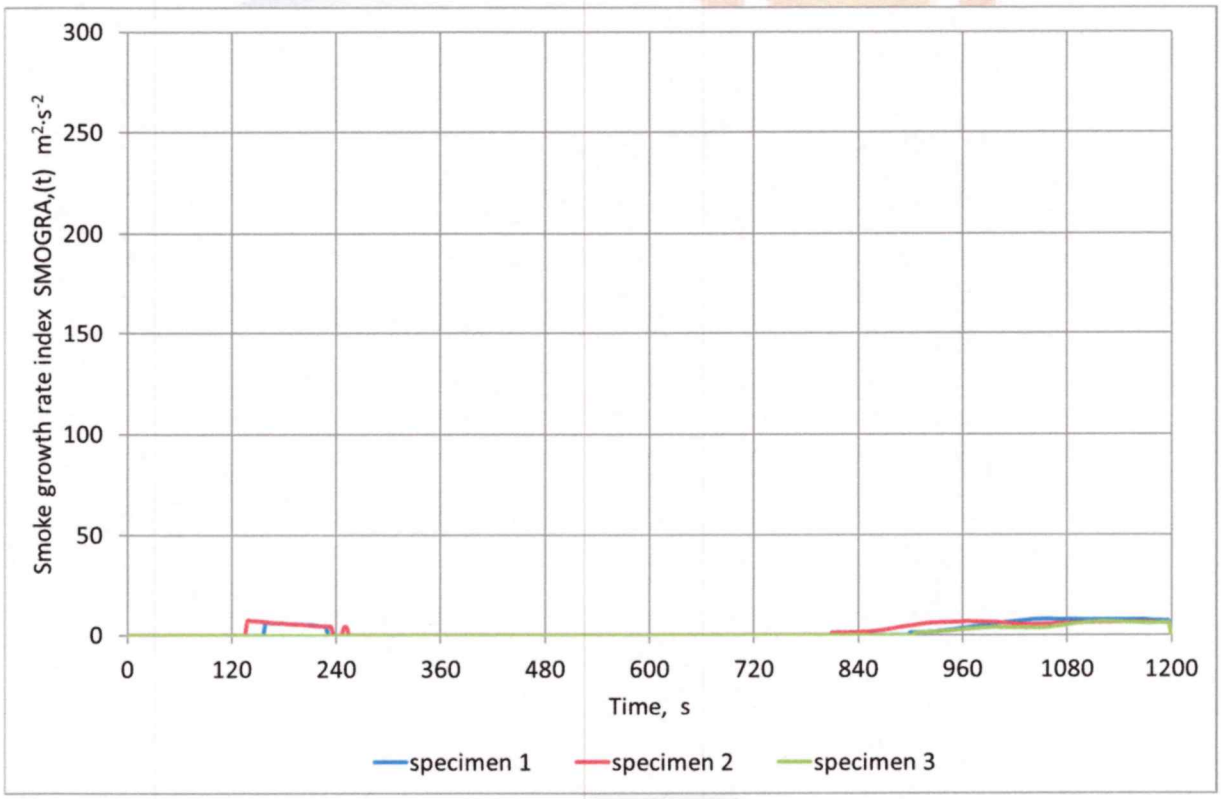


Figure 1.6. Smoke growth rate index SMOGRA(t), $m^2 \cdot s^{-2}$

1.3. Lateral flame spread on the long specimen wing and laming particles or droplets

Name of measured quantity	Unit	Specimen		
		1	2	3
Lateral flame spread on the long specimen wing LFS < edge	YES/NO	YES	YES	YES
Flaming particles or droplets	YES/NO time, s	NO	NO	NO

1.4. Appearance of the specimen

Specimen 1

Specimen 2

Specimen 3

2. Ignitability of products subjected do direct impingement of flame according to PN-EN ISO 11925-2

2.1. Surface ignition

Exposure time of pilot burner flame - 30 s

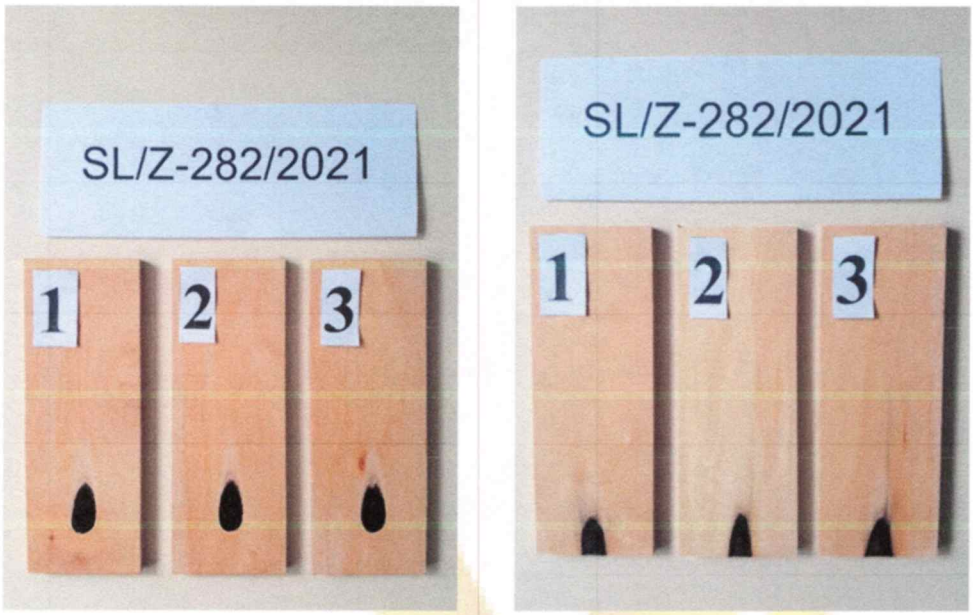
Name of measured quantity	Unit	Specimen no./Test direction						Final result
		lenght direction			cross direction			
		1	2	3	4	5	6	
Ignition of specimen	YES/NO	NO	NO	NO	-	-	-	
Ignition of paper	YES/NO	NO	NO	NO	-	-	-	
Flame spread > 150 mm	YES/NO	NO	NO	NO	-	-	-	
Time of arrival of the flame front 150 mm	s	-	-	-	-	-	-	-

2.2. Edge ignition

Exposure time of pilot burner flame - 30 s

Name of measured quantity	Unit	Specimen no./Test direction						Final result
		lenght direction			lenght direction			
		1	2	3	4	5	6	
Ignition of specimen	YES/NO	NO	NO	NO	-	-	-	
Ignition of paper	YES/NO	NO	NO	NO	-	-	-	
Flame spread > 150 mm	YES/NO	NO	NO	NO	-	-	-	
Time of arrival of the flame front 150 mm	s	-	-	-	-	-	-	-

Remarks: none.



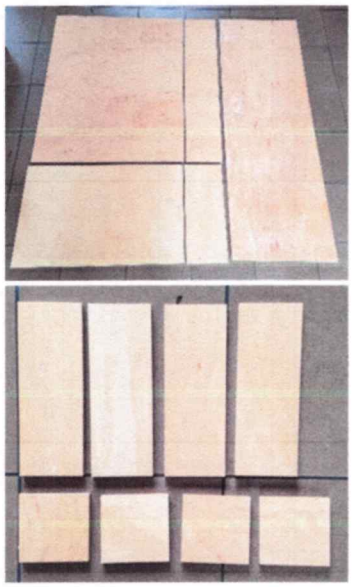
Appearance of the specimens after the test

3. Final findings

Test method	Parameter/Unit	Measured value	Critical value	Classification
PN-EN 13823	FIGRA, W/s	47	≤ 120	**B**
	THR_{600s}, MJ	3,5	≤ 7,5	
	LFS < edge	YES	YES	
	SMOGRA, $m^2 \cdot s^{-2}$	7	≤ 180	**s1**
	TSP600s, m^2	41	≤ 200	
	Flaming particles or droplets, time s	NO	NO	**d1**
PN-EN ISO 11925-2 Exposure time 30 s	Flame spread > 150 mm in 60 s, mm	≤ 150	≤ 150	-
	Ignition of paper	no	no	no d2

The tested product meets the requirements of **B-s1,d0** class according to EN 13501-1:2018

4. Remaining required information with norm



Date of receipt of samples: 30.04.2021

***Sampling*:** sponsor took and delivered samples.

***Description of the samples*:** brich plywood, thickness of 12,2-12,4 mm and weight per unit area 8,4-8,9 kg/m^2 and density 693-719 kg/m^3. Sponsor delivered 4 samples dimensions of 500x1500 mm, 4 samples dimensions of 200x1000 mm, 4 samples dimensions of 800x1000 mm, 4 samples dimensions of 200x500 mm, 4 samples dimensions of 500x800 mm, 4 samples dimensions of 250x90 mm and 4 samples dimensions of 100x100 mm. Laboratory prepared samples for the tests according to EN ISO 11925-2.

Conditioning of specimens: constant mass at a temperature of 23±2 °C, and relative humidity of 50±5 %.

Description of the substrate and fixing to the substrate: samples fixed mechanically to wooden slats, with a horizontal and a vertical joints and ventilated air gap at a distance of 40 mm (Clauses 5.2.2 c) and e) of EN 13823:2020) from the standard A2-s1,d0 substrate according to PN-EN 13238:2011 clause 5.3 (gypsum- cardboard board a density of 700 ± 100 kg/m3 and a thickness of 12.5 ± 0.5 mm).

Declarations:

1. The test results relate to the behaviour of the test specimens under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the products in use.
2. The information provided on the first page of the report concerning the scope of research and identification of the tested object/objects were provided by the Sponsor.

Operator:

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Date and place of test : 05.05.2021, Police