

TEST REPORT

Order: 22.04.2021

Signature: SL/Z-260/EN9239/277a/2021

Police, 29.04.2021

Test methods:

1. EN ISO 9239-1:2010. Reaction to fire tests for floor coverings – Part 1. Determination of the burning behaviour using radiant heat source.
2. EN ISO 11925-2:2010 - Reaction to fire tests – Ignitability of products subjected to direct impingement of flame – Part 2: Single-flame source test

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

Sponsor: Kleen -Tex Polska Sp. z o.o.
Fabryczna 5/12
26-130 Suchedniów, Poland

Material: Floor mat „Super-Mat”

Composition: **Pile:** 100 % High-Twist Nylon (HTN) Poliamid 6 with monofilament. Pile height: approx. 8-9 mm. Pile weight: without substrate: 695 g/m², with substrate: 940 g/m². **Backing:** 100% Nitrile rubber. Rubber thickness: 1.8 mm. Rubber weight 2,20 kg/m². **Total mat weight:** 3,1 kg/m². **Overall height:** approx. 9-10 mm.

Manufacturer/supplier: Kleen -Tex Polska Sp. z o.o.
Fabryczna 5/12
26-130 Suchedniów, Poland

Assessment: The tested product fulfils the requirements of **C_{n-s1}** class according to EN 13501-1:2018.

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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: six pages with signature and numbers.

1. Reaction to fire tests for floor coverings according to EN ISO 9239-1

Table 1.1. critical heat flux at extinguishment CHF

Name of measured quantity	Unit	Test direction	
		length direction	cross direction
Critical heat flux at extinguishment CHF	kW·m ⁻²	4,9	-

Name of measured quantity	Unit	Specimen			Average	Standard deviation
		1	2	3		
Mass of the specimen	g	733,1	732,4	739,9	735,1	4,1
Specimen thickness	mm	6,5	5,7	5,8	6,0	0,4
Ignition time	s	213	230	230	224	10
Extinction time	s	-	-	-	-	-
Duration of the test	s	1800	1800	1800	1800	0
Flame spread distance after 10 min	mm	360	370	380	370	10
Flame spread distance after 20 min	mm	390	400	420	403	15
Maximum flame spread distance	mm	420	420	440	427	12
Critical heat flux at extinguishment CHF	kW·m ⁻²	4,9	4,9	4,6	4,8	0,2

Table 1.2. Time of the movement of the flame front

Distance from exposed of the specimen	Calibration flux levels at the specimen	Time of arrival of the flame front		
		Specimen		
		1	2	3
mm	kW·m ⁻²	s		
110	10,9	262	265	269
160	10,2	301	286	324
210	9,5	370	337	393
260	8,4	433	401	485
310	7,3	500	493	558
360	6,2	594	563	879
410	5,1	1548	1463	1090
460	4,2	-	-	-
510	3,6	-	-	-
560	2,9	-	-	-
610	2,6	-	-	-

Table 1.3. Smoke generation

Name of measured quantity	Unit	Specimen			Average	Standard deviation
		1	2	3		
Maximum light attenuation	%	65,4	68,9	62,4	65,6	3,3
Integrated smoke obscuration Sc	% · min	494	480	530	501	26

Remarks: none.

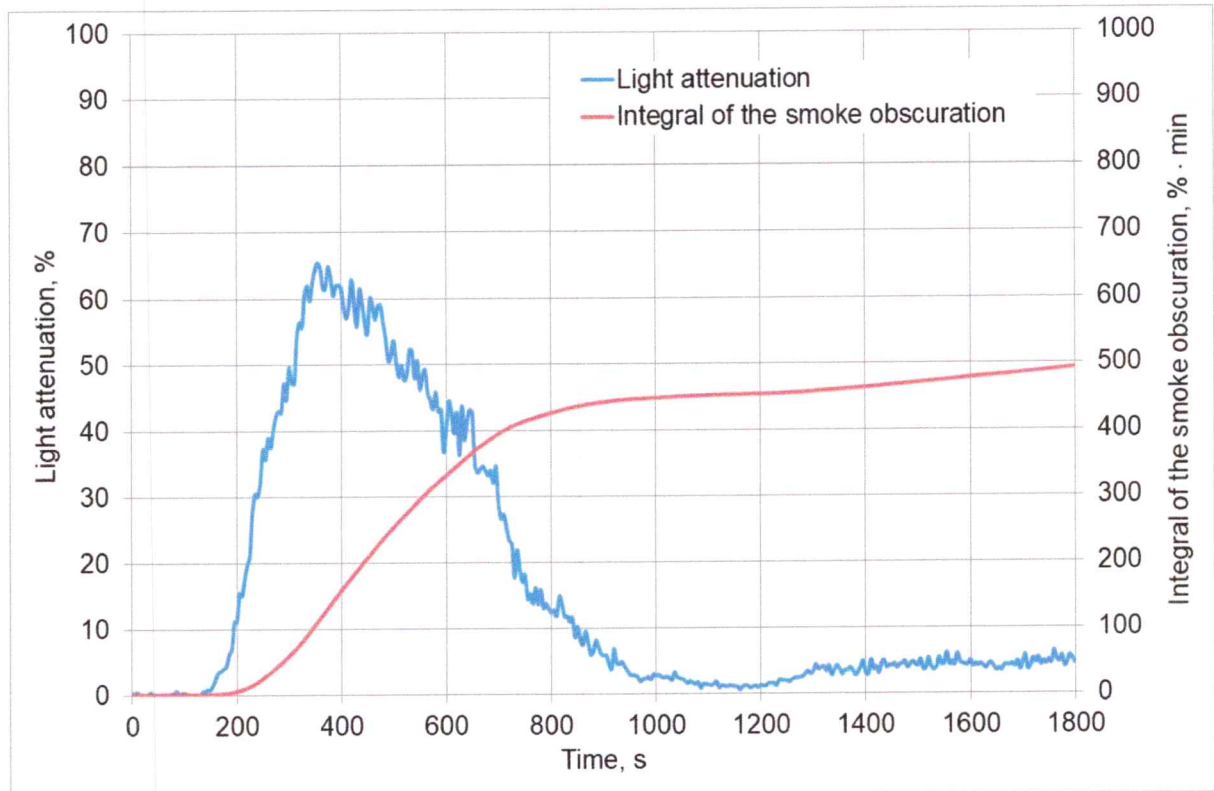


Fig. 1. Smoke generation during the test - specimen 1

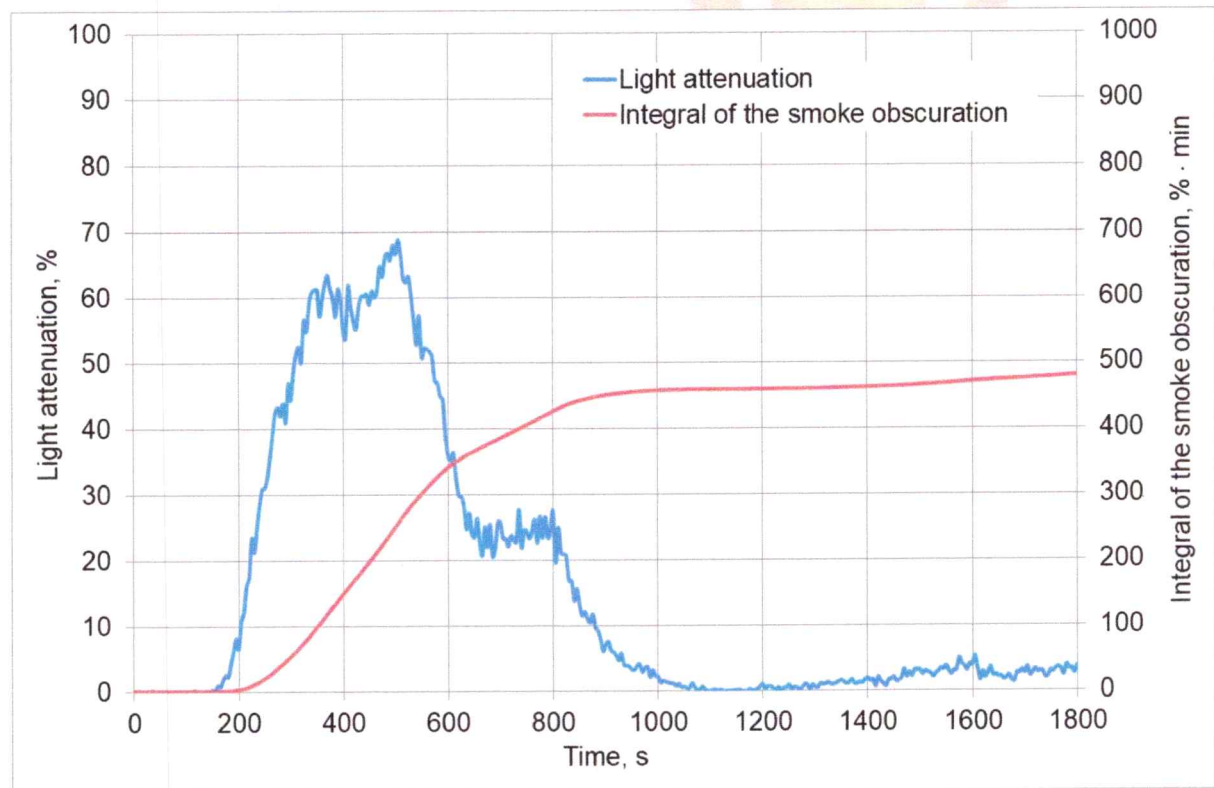


Fig. 2. Smoke generation during the test - specimen 2

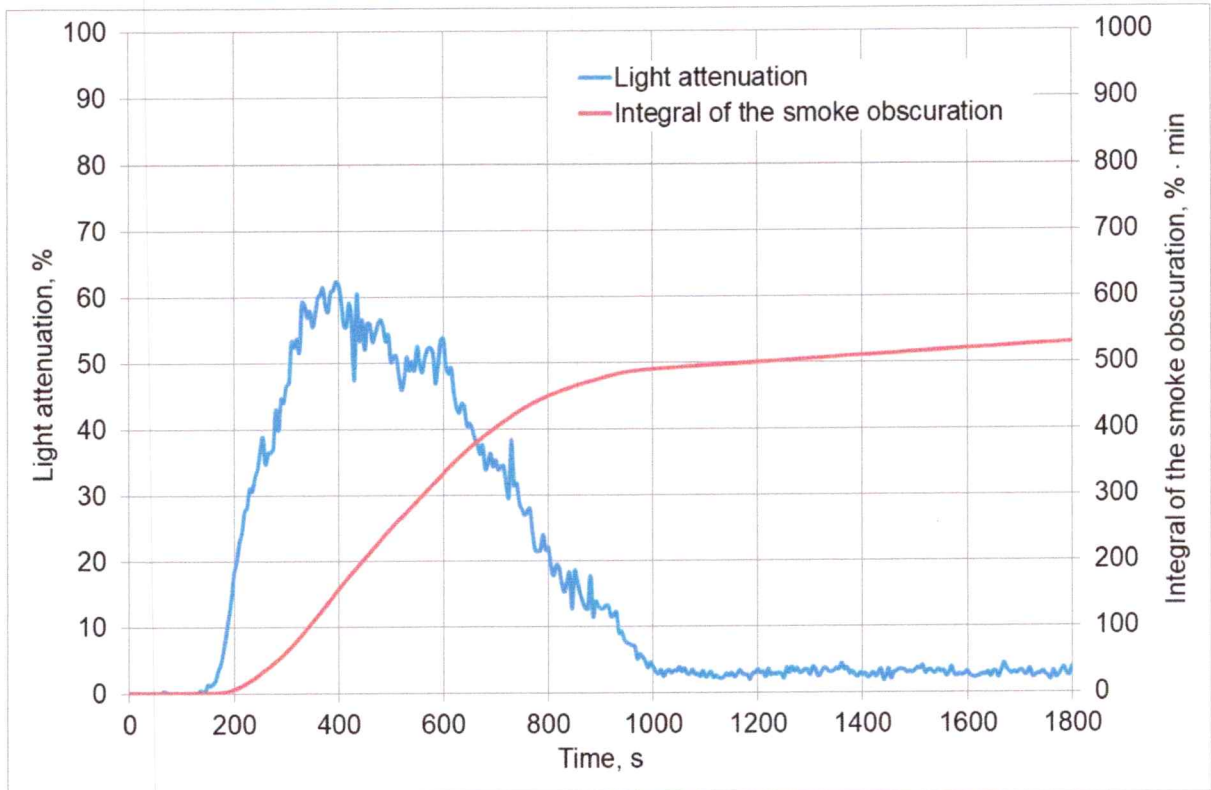


Fig. 3. Smoke generation during the test - specimen 3



Fig. 4. Appearance of the specimens after the test

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

Surface ignition

Exposure time of pilot burner flame - 15 s

Name of measured quantity	Unit	Specimen no./Test direction						Average
		length 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	-	-	-	-	-	-	-

Remarks: none.



Fig. 5. Appearance of the specimens after the test

3. Final findings

Test method	Parameter/Unit	Measured value	Critical value	Classification
EN ISO 9239-1	CHF/HF-30, kW·m ⁻²	4,8	≥ 4,5	C_n
	Sc, % · min	501	≤ 750	s1
EN ISO 11925-2 Exposure time 15 s	Fs > 150 mm in 20 s,	≤ 150	≤ 150	-

The tested product fulfils the requirements for **C_n-s1** class according to EN 13501-1:2018.

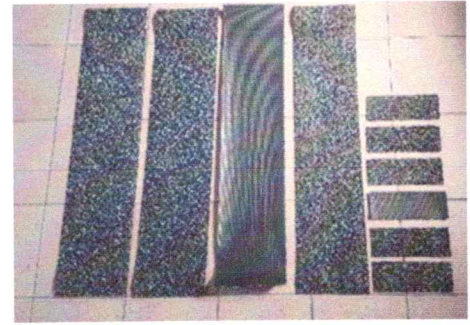
The term reaction to fire class and the level of smoke decomposition and combustion products was taken in order to assess the fulfillment of the research.

4. Remaining required information

Sampling: sponsor took and delivered samples.

Date of sample arrival: 23.04.2021

Description of the samples: floor mat of the black-white colour, thickness of 4,6-6,5 mm and weight per unit area 3,0 kg/m². 4 samples with dimensions 1050x230 mm and 6 samples with dimensions 250x90 mm were delivered by the sponsor.



Description of the substrate and fixing to the substrate: Material was tested on the standard non-combustible substrate according to EN 13238:2010 - fibre cement board with thickness (8 ± 2) mm, with density (1 800 ± 200) kg/m³ and with classification A2_{fl}-s1- without fixing.

Conditioning of specimens: constant mass at a temperature of 23±2 °C, and relative humidity of 50±5 % according to EN 13238:2010.

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:


mgr inż. Andrzej Sychta

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KIEROWNIK TECHNICZNY
dr inż. Krzysztof Sychta

Date and place of test: 28-29.04.2021, Police