

## TEST REPORT OF THE RESULTS OF TEST FOR THE FLAME SPREAD ON FLOOR COVERINGS

IBR/Z-059-2017

Signature No: TZ/PN9239a/129/2017

Szczecin, 09-08-2017

### Test methods:

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

**Material:** Floor coverings of type METRO Tp on non-combustible standard substrate (without glued)

**Composition:** The rubber mixture with mineral fillers, sulfur vulcanized

### Final findings

Critical flux at extinguishment	CHF	10.9 ± 0.0	kW/m <sup>2</sup>
Maximum light attenuation	S	35 ± 5	%
Integrated smoke obscuration	Sc	135 ± 38	% · min
Maximum Flame spread distance according to PN-EN ISO 11925-2	Fs	< 150	mm

**The clauses of test report validity:** Report applies only to the sample tested and is not necessarily indicative of the qualities of apparently identical or similar products.

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**1. REACTION TO FIRE TESTS FOR FLOOR COVERINGS ACCORDING TO PN-EN ISO 9239-1**

**1.1. Basic test results**

Name of measured quantity	Unit	Direction of investigation	
		along	across
Critical flux at extinguishment CHF	kW/m <sup>2</sup>	-	-

Name of measured quantity	Unit	Specimen			Average	Standard deviation	Coefficient of variability %
		1	2	3			
Ignition time	s	128	126	139	131	6	4
Extinguishment time	s	734	717	666	705	29	4
Flame spread distance after 10 min.	mm	100	105	110	105	4	4
Flame spread distance after 20 min.	mm	100	105	110	105	4	4
Maximum flame spread distance	mm	100	105	110	105	4	4
Critical flux at extinguishment CHF	kW/m <sup>2</sup>	11.0	10.9	10.9	10.9	0.0	0.4

**1.2. Additional test results**

**1.2.1. Heat for sustained burning**

Distance from exposed of the specimen	Calibration flux levels at the specimen	Time of arrival of the flame front		
		s		
		Specimen		
mm	kW/m <sup>2</sup>	1	2	3
110	10.9	-	-	276
160	10.1	-	-	-
210	9.3	-	-	-
260	8.1	-	-	-
310	7.0	-	-	-
360	6.0	-	-	-
410	5.0	-	-	-
460	4.2	-	-	-
510	3.6	-	-	-
560	2.9	-	-	-
610	2.6	-	-	-

**1.2.2. Smoke generation of specimen**

Name of measured quantity	Unit	Specimen			Average	Standard deviation	Coefficient of variability %
		1	2	3			
Maximum light attenuation	%	38	39	27	35	5	15
Integrated smoke obscuration	% · min	183	131	91	135	38	28

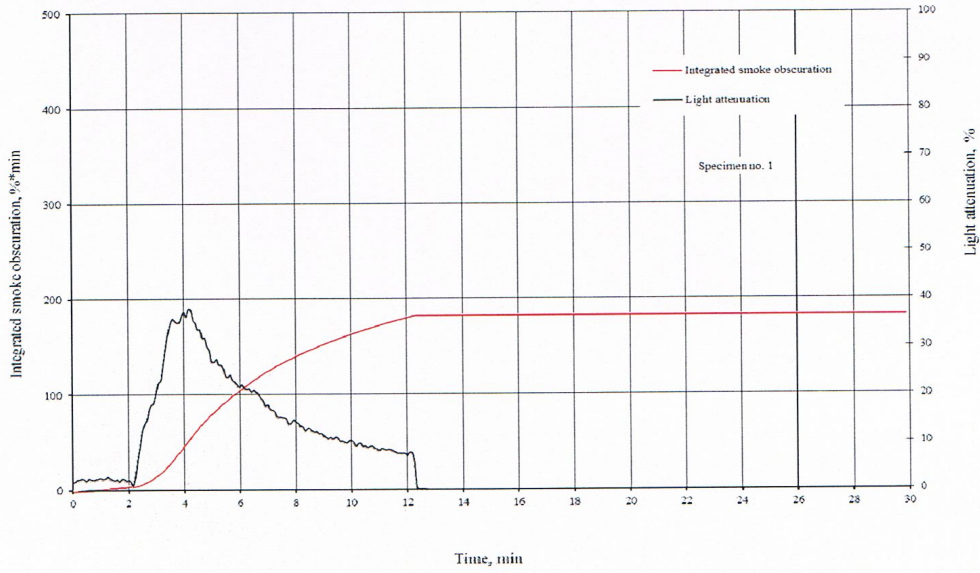


Figure 1. The relation smoke over time

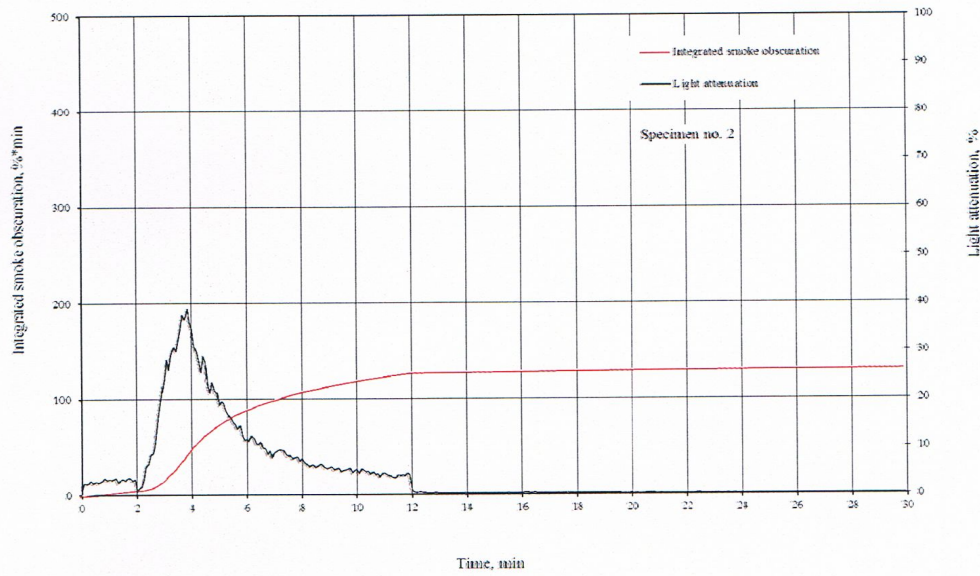


Figure 2. The relation smoke over time

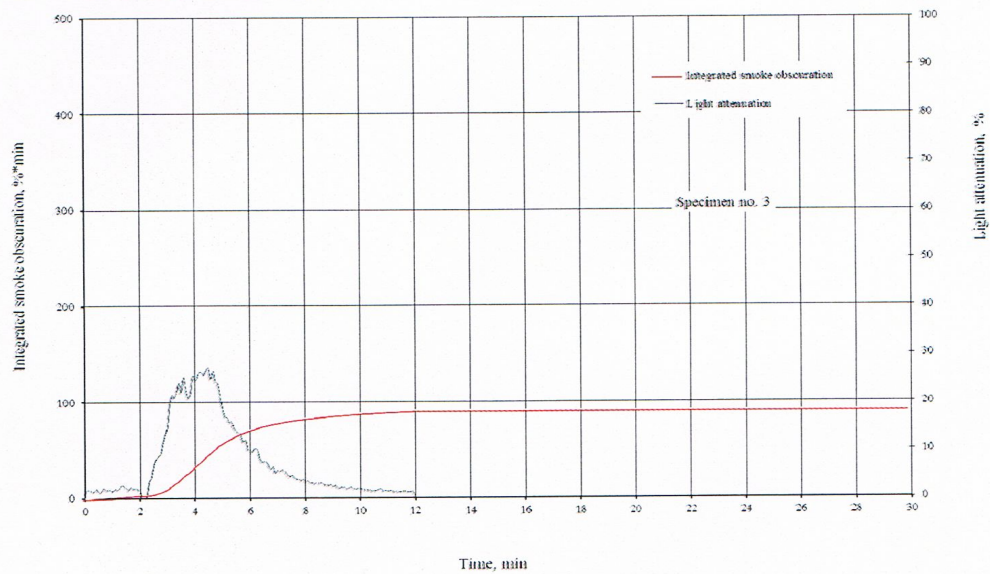


Figure 3. The relation smoke over time

1.3. Other relevant observations: nothing of importance

## 2. IGNITABILITY WHEN SUBJECTED TO DIRECT IMPINGEMENT OF FLAME ACCORDING TO PN-EN ISO 11925-2.

2.1. Surface ignition - exposure time of pilot burner flame - 15 s

Name of measured quantity	Unit	Specimen						Average
		along			across			
		1	2	3	1	2	3	
Ignition of specimen	Yes/No	No	No	No	-	-	-	
Ignition of paper	Yes/No	No	No	No	-	-	-	
Is the flame has reached the range of 150 mm	Yes/No	No	No	No	-	-	-	
Time of arrival of the flame front 150 mm	s	-	-	-	-	-	-	-

### 3. Norm required remaining information:

3.1. Sampling for testing: test samples obtained and delivered by the Employer

3.2. Date of delivering the material: 02-08-2017

3.3. The thickness: 3,2 mm, density of material: - kg/m<sup>2</sup>, Red Colour,

3.4. Conditioning: conditioning the specimens according to PN-EN 13238:2011, point 4.2

### 4. Compliance with the requirements

#### Final findings

Critical flux at extinguishment CHF according to PN-EN ISO 9239-1	<b>10.9 ± 0.0</b>	kW/m <sup>2</sup>
Integrated smoke obscuration according to PN-EN ISO 9239-1	<b>135 ± 38</b>	% · min
Maximum flame spread distance according to PN-EN ISO 11925-2	<b>&lt; 150</b>	

Method of determining the measurement uncertainty  $Y = \bar{Y}_{str} \pm U(Y)$  - standard uncertainty

4.1. Compliance with the requirements acc. PN-EN 13501-1+A1:2010: the material meets the requirements for flooring materials class **Bfl - s1**

4.2. Material is considered to meet requirement for hardly ignitable in compliance with polish regulations (Dz.U. [Journal of Laws] from 2002, No. 75, item 690, as amended).

**Declaring:** The results of investigation treat to behaviour of samples to investigations of product in special conditions of investigation; they can not intended as a means of assessing the full potential the fire hazard of the materials or products in use.

Performer of tests:



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dr inż. Renata Dobrzyńska

Date and place of test - 07-08-08-2017, Szczecin