

TEST REPORT

Order no: 10.05.2021

Signature: SL/Z-489/DIN4102-B1/563a/2021

Police, 04.08.2021

Test methods:

1. DIN 4102-1:1998-05 Fire behaviour of building materials and building components - Part 1: Building materials; concepts, requirements and tests.
2. DIN 4102-16:2021-01 Fire behaviour of building materials and building components - Part 16: "Brandschacht" tests
3. DIN 53438-2:1984-06 Testing of combustible materials; response to ignition by a small flame; edge ignition
4. DIN 53438-3:1984-06 Testing of combustible materials; response to ignition by a small flame; surface ignition

Content of request: Testing according to DIN 4102-1:1998-05 (building class B1)

Sponsor: Continental Grafix AG
Lettenstrasse 2
6343 Rotkreuz
Switzerland

Material: panoRama TwoWayVision

Composition: Self-adhesive film = 120micron +/- 10micron
Glass sheet 3,8 mm thick

Manufacturer/supplier: Continental Grafix AG
Lettenstrasse 2
6343 Rotkreuz
Switzerland

Assessment: The material fulfils the requirements of the building class B1 according to DIN 4102-1:1998-05

Validity of test report: 04.08.2026

The reprint and the copying: only with the agreement of Continental Grafix AG.

Without the written consent of the Sychta Laboratory the report can be copied only in one piece.

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. Test results class B1 according to DIN 4102-16:2021-01 - Brandschacht tests

Name of measured quantity	Unit	Specimen				Requirement
		1	2	3	4	
No. test arrangement according to DIN 4102-15	-	7				
Specimen thickness	mm	3,9				
Maximum flame height	cm	50				
Time	s	78				
Flaming time	s	244				
Ignition sample backside	yes/no	no				
Time	s	-				
Burning droplets	yes/no	no				
Duration falling of burning droplets	s	-				
- sporadic falling of burning droplets	yes/no	no				
- continuous falling of burning droplets	yes/no	no				
Burning separating sample parts	yes/no	no				
Duration falling of burning parts	s	-				
- sporadic falling of burning parts	yes/no	no				
- continuous falling of burning droplets	yes/no	no				
Duration of burning on the sieve tray	s	-				
Residual range						
1	cm	50				>0
2	cm	49				
3	cm	51				
4	cm	50				
Average value of the residual range	cm	50				≥15
Maximum flue gas temperature	°C	118				≤200
Time	s	595				
Duration of burning after end of test	s	0				
Maximum light attenuation	%	36,6				
Integrated smoke obscuration	min• %	18				≤400
Impairment of the burner flames by falling particles or droplets	yes/no	yes				
Time of the appearance of falls for the burner	s	308				
Premature end of test	yes/no	no				
Time	s	-				

Remark 1: Because of the residual length of > 45 cm in one test, the number of tests was reduced, according to Clause 6.2 b) DIN 4102-16:2021-01.

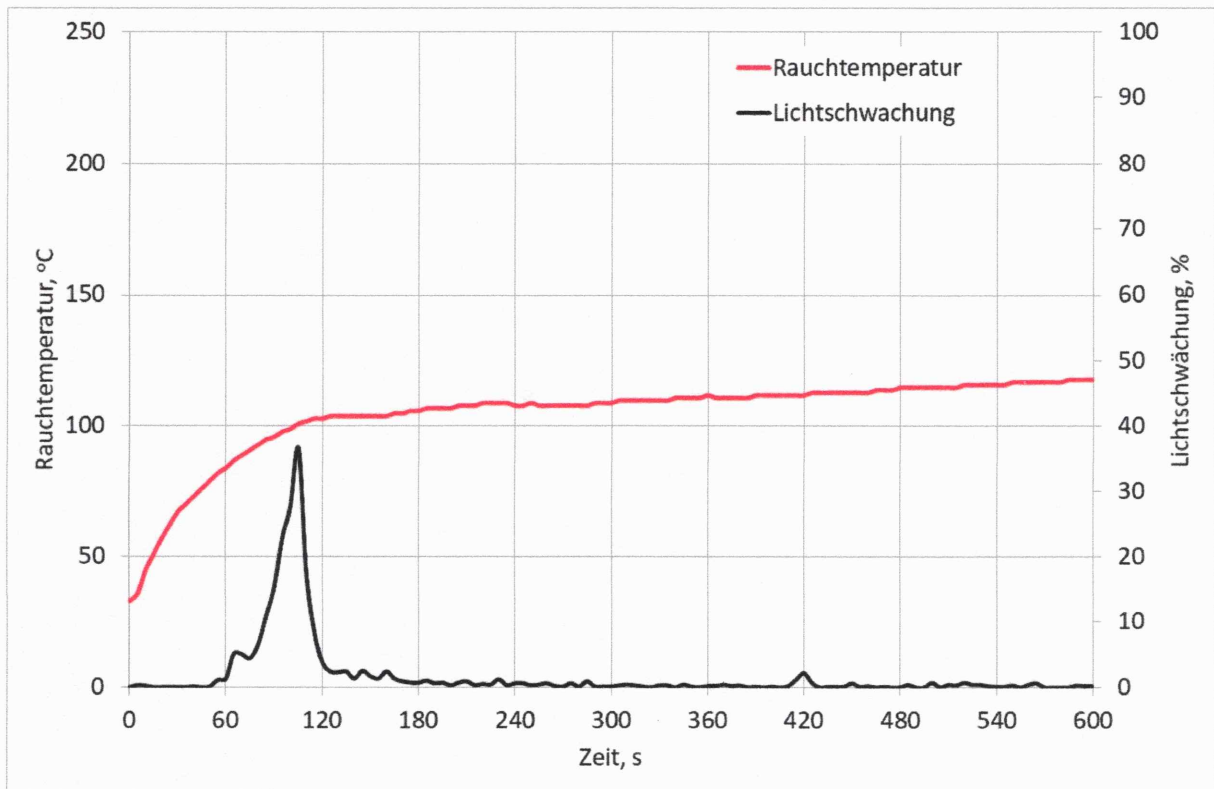


Figure 1. The relation of flue gases temperature and of the light attenuation in the time



Figure 2. Appearance of the sample 1 after the test

2. Test results class B2 according to DIN 4102-1 (DIN 53438-2 and DIN 53438-3)
2.1. Edge ignition

Exposure time of pilot burner flame - 15 s

Time from start of test.

Name of measured quantity	Unit	Specimen no./Test direction									
		length direction					cross direction				
		1	2	3	4	5	1	2	3	4	5
Specimen thickness	mm	3,9	3,9	3,9	3,9	3,9	-	-	-	-	-
Ignition time	s	-	-	-	-	-	-	-	-	-	-
Flame height 150 mm within 20 s	yes/no	no	no	no	no	no	-	-	-	-	-
Max. flame height	cm	0	0	0	0	0	-	-	-	-	-
Time	s	-	-	-	-	-	-	-	-	-	-
Extinction time	s	-	-	-	-	-	-	-	-	-	-
Flaming particles or droplets	yes/no	no	no	no	no	no	-	-	-	-	-
Ignition of paper	yes/no	no	no	no	no	no	-	-	-	-	-
Smoke development (visual impression)	-	lack of smoke									

2.2. Surface ignition

Exposure time of pilot burner flame - 15 s

Time from start of test.

Name of measured quantity	Unit	Specimen no./Test direction									
		length direction					cross direction				
		1	2	3	4	5	1	2	3	4	5
Specimen thickness	mm	3,9	3,9	3,9	3,9	3,9	-	-	-	-	-
Ignition time	s	-	-	-	-	-	-	-	-	-	-
Flame height 150 mm within 20 s	yes/no	no	no	no	no	no	-	-	-	-	-
Max. flame height	cm	0	0	0	0	0	-	-	-	-	-
Time	s	-	-	-	-	-	-	-	-	-	-
Extinction time	s	-	-	-	-	-	-	-	-	-	-
Flaming particles or droplets	yes/no	no	no	no	no	no	-	-	-	-	-
Ignition of paper	yes/no	no	no	no	no	no	-	-	-	-	-
Smoke development (visual impression)	-	lack of smoke									

Remarks: none.

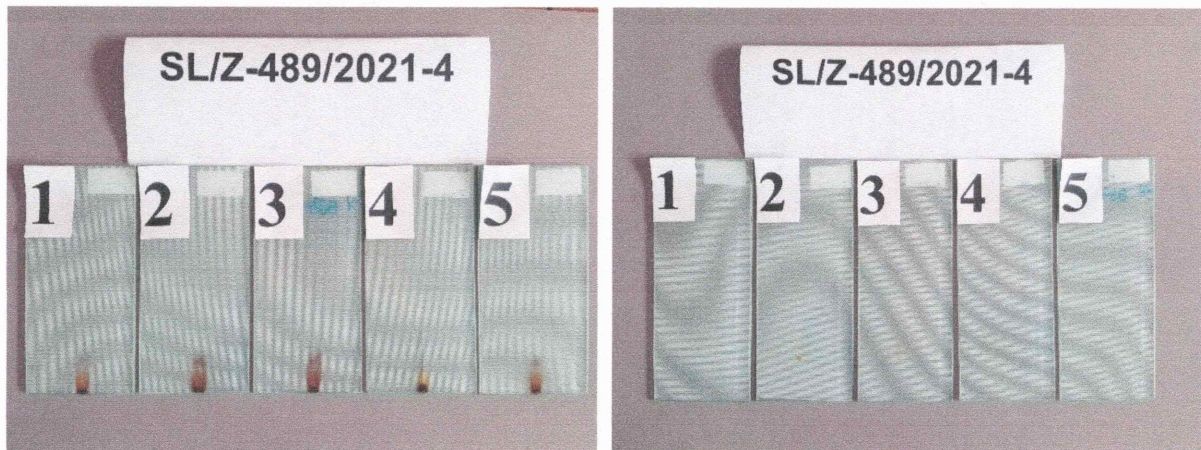


Figure 3. Appearance of the sample after the small burner test

3. Assessment

The determined test results show that the material fulfils the requirements of the building class B2 according to DIN 4102-1:1998-05.

The determined test results show that the material fulfils the requirements **of the building class B1** according to DIN 4102-1:1998-05.

In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This report does not determine admission to the use of the product, when tested material is used as a construction product within the meaning of terrestrial technical requirements.

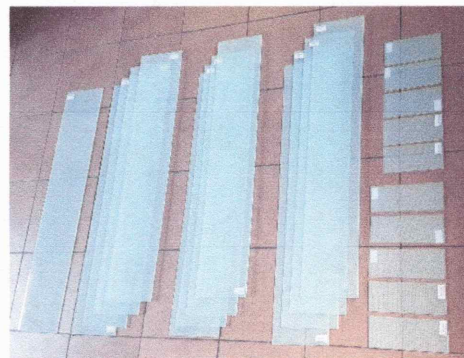
In the process of construction supervision test results can be the basis for a preliminary assessment of the compatibility/suitability.

4. Remaining required information

Date of receipt of samples: 16.07.2021

Sampling: sponsor took and delivered samples.

Description of the test material: transparent film on the one side of glass sheet 3,8 mm thick, marked as: "panoRama TwoWayVision", thickness of approximately 3,9 mm and weight per unit area 9,6 kg/m². 13 samples dimension of 1000x190 mm, 5 samples dimension 230-231x89-90 mm and 5 samples dimension of 191x90 mm were delivered by the sponsor.



Conditioning of specimens: after storing 14 days before the tests or constant mass at temperature of 23±2 °C and relative humidity of 50±5 % (DIN 50014-23/50-2).

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.

Operators:


mgr inż. Andrzej Sychta

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Date and place of test - 22.07 and 02.08.2021, Police