

Test laboratory for the fire behavior of building materials, Dipl.-Ing. (FH) Andreas Hoch
Testing, supervising and certifying body, authorized by the building supervision authority

TEST REPORT

PZ-Hoch-241191

for the proof of Fire behaviour according to DIN 4102, part 1

Translation of the German test report – no guarantee for translation of technical terms

company	Convertec GmbH Heideweg 2-4 D-77880 Sasbach
description of samples	fabric consisting of cotton and polyester FR, with polymer coating on one side colour: light beige / white
name of the material	„Baden matt S FR“
sampling	by the company itself
content of request	Proof of flammability to classify building materials to class B1 "schwerentflammbar" according to DIN 4102, part 1
validity of test report	31.08.2029
result	The examined product meets glued with "Methylan Vinyl + Spezial" <ul style="list-style-type: none">• on massive mineral substrates with a density of $\geq 1.500 \text{ kg/m}^3$ and a thickness of $\geq 0,6\text{mm}$• on massive mineral substrates with a density of $\geq 650 \text{ kg/m}^3$ and a thickness of $\geq 11 \text{ mm}$• on non-combustible building boards the requirements of class B1 for "schwerentflammbare" (hardly flammable) building materials according to DIN 4102, part 1 (May 1998).

This test report includes 4 pages and 5 enclosures.

Remark: If the above mentioned building material is not used as product according to MBO § 2, Abs. 9, Ziffer1, there is no need for a general building supervisory test report.

This test report is not valid if the examined building material is used as product in the meaning of state building prescriptions (MBO § 17, Abs. 3).

This test report does not replace an eventually necessary proof of applicability concerning building supervisory or building laws in the meaning of state building prescriptions. This has to be verified by:

- "allgemeine bauaufsichtliche Zulassung" (general building inspectorate approval) or by
- „allgemeines bauaufsichtliches Prüfzeugnis" (general building inspectorate certificate) or by
- "Zustimmung im Einzelfall" (exceptional approval)

This test report can underlie building supervisory procedures

- for regular building products for the prescribed proofs of conformity
- for non-regular building products for the needed proofs of applicability.

This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.

1. Description of test material in condition as delivered

PN 39609: „Baden matt S FR” colour: light beige / white

- fabric consisting of cotton and polyester FR, with polymer coating on one side -
 side A: light beige / side B: white, coated side

characteristic values determined by the test laboratory:

area weight: about 440g/m² thickness: about 0,52mm

The testing laboratory is not provided with further details concerning composition of the tested building materials. Samples are deposited.

2. Preparation of samples

For tests the material was glued with “Methylan Vinyl + Spezial” on gypsum plasterboards according to DIN EN 520: thickness (12,5±0,5)mm area weight (700±100) kg/m³, class A2-s1,d0 according to EN 13501-1, in compliance with DIN 4102-16: 2020-11, point 5.4,c.

The light beige side was glued on the gypsum plasterboards.

The glue application quantity was about 250g/m².

The samples were kept in climate chamber 23/50 until they reached constant weight.

3. Arrangement of samples mounting: glued on gypsum plasterboards

- #7995: flaming in warp direction
- #8139: flaming in weft direction
- #8265: flaming in warp direction
- #8266: flaming in warp direction

4. Date of test CW 28, CW 32 and CW 36 in 2024

5. Results The test has been examined according to DIN 4102 (Mai 1998)

line no.	Measurement	Result with the tested specimen				Dim.
		#7995	#8139	#8265	#8266	
	Test number	#7995	#8139	#8265	#8266	
	flaming direction	warp	weft	warp	warp	
1	<u>Number of specimen arrangement</u> acc. to. DIN 4102/T15, schedule 1	7	7	7	7	
2	<u>Maximum flame height</u> above bottom edge of the specimen	>100	100	>100	>100	cm
3	Time ¹⁾	1:05	3:05	1:08	1:22	min:s
4	<u>Burn through / melting</u> Time ¹⁾	0:12	0:12	0:11	0:11	min:s
	<u>Observations on the back side of the specimen</u>					
5	Flames / Glowing Time ¹⁾	---	---	---	---	min:s
6	Change of colour Time ¹⁾	./.	./.	./.	./.	min:s
7	<u>Falling of burning droplets</u> Start ¹⁾	./.	./.	./.	./.	min:s
8	sporadic falling of burning droplets ²⁾	---	---	---	---	
9	continuous falling of burning droplets ²⁾	---	---	---	---	min:s

line no.	Measurement	Result with the tested specimen				Dim.
	Test number	#7995	#8139	#8265	#8266	
	flaming direction	warp	weft	warp	warp	
10	<u>Falling of burning droplets</u>	./.	./.	./.	./.	min:s
	Start ¹⁾					
	Extent				./.	
11	sporadic falling of burning droplets ²⁾	---	---	---		
12	continuous falling of burning droplets ²⁾	---	---	---	./.	
13	<u>After flame time at the bottom of the sieve (max.)</u>	./.	./.	./.	./.	min:s
14	<u>Impairment of the burner by dropping or falling material:</u>					
	Time ¹⁾	./.	./.	./.	./.	min:s
15	Final occurrence of burning at the specimen ¹⁾	10:00	10:00	10:00	10:00	min:s
16	Time of eventually end of test ¹⁾	./.	./.	./.	./.	min:s
17	<u>After flame after end of test</u>					min:s
	Time ¹⁾	./.	./.	./.	./.	
18	Number of specimen	./.	./.	./.	./.	
19	Front side of specimen ²⁾	./.	./.	./.	./.	
20	Back side of specimen ²⁾	./.	./.	./.	./.	
21	flame length	./.	./.	./.	./.	cm
22	<u>Afterglow after end of test</u>	./.	./.	./.	./.	min:s
	Time ¹⁾	./.	./.	./.	./.	
23	Number of specimen	./.	./.	./.	./.	
	<u>Place of appearance</u>	./.	./.	./.	./.	
24	Lower half of the specimen ²⁾	./.	./.	./.	./.	
25	Upper half of the specimen ²⁾	./.	./.	./.	./.	
26	Front side of specimen ²⁾	./.	./.	./.	./.	
27	Back side of specimen ²⁾	./.	./.	./.	./.	
28	<u>Density of smoke</u>					% * min
	≤ 400 % * min	22	20	33	23	
29	> 400 % * min ⁴⁾	./.	./.	./.	./.	% * min
30	Diagram: encl. no.	1	2	3	4	
31	<u>Residual lengths: individual value³⁾</u>					
	Specimen 1	31	35	35	36	cm
	Specimen 2	32	35	36	36	cm
	Specimen 3	32	31	35	36	cm
	Specimen 4	34	33	36	36	cm
32	<u>Average value, individual test³⁾</u>	32	34	36	36	
33	<u>Photo of specimen in enclosure no.</u>	1	2	3	4	
34	<u>Flue gas temperature</u>	163	137	181	134	°C
35	Maximum of average value					
	Time ¹⁾	01:14	01:14	1:10	1:26	min:s
36	Diagram: encl. no.	1	2	3	4	
37	Remarks: - none -					

¹⁾ indication of times: from the begin of testing procedure ²⁾ checked off if applicable

³⁾ indication of carrier/foam layer separated in case of fire-proofing agents

⁴⁾ very strong development of smoke

6. Explanations concerning the testing procedure

-none-

7. Summary of results and additional establishments to Fire Behaviour

lineo.	measurement	Result with the tested specimen				dimension
	test-no.	#7995 warp	#8139 weft	#8265 warp	#8266 warp	
1	residual length	32	34	36	36	cm
2	max. smoke temperature	163	137	181	134	°C
3	density of smoke - integral	22	20	33	23	%min
4	remarks: -none-					

According to DIN 4102, part 1, "schwerentflammbare" (hardly flammable) building materials must meet the requirements of class B2.

Pursuant to additional tests in the ignitability apparatus this can be determined (appendix 5).

8. Special remarks

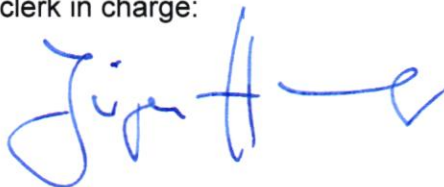
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, as soon as the fabric is used as a building product in the sense of the "Landesbauordnungen" (state building requirements, MBO § 17, par. 3).
- This test report is no substitute for a General Building Inspectorate Certificate.
- This test report is granted without prejudice to the rights of third parties, in particular private proprietary rights.
- For legal interests only the German original version is relevant.
- In General Building Inspectorates procedures this test report can be based for
 - regular building materials for the required proof of accordance
 - for not regular building materials for the required proof of applicability

9. Validity

This test report is valid until the mentioned date on page 1. The test report becomes invalid in case the standards on which the tests are based are changed.

Fladungen, 23.09.2024

clerk in charge:



(Dipl.-Ing.(FH) Jürgen Hammer)



Head of the test laboratory:



(Dipl.-Ing.(FH) Andreas Hoch)

„Brandschacht“-test #7995

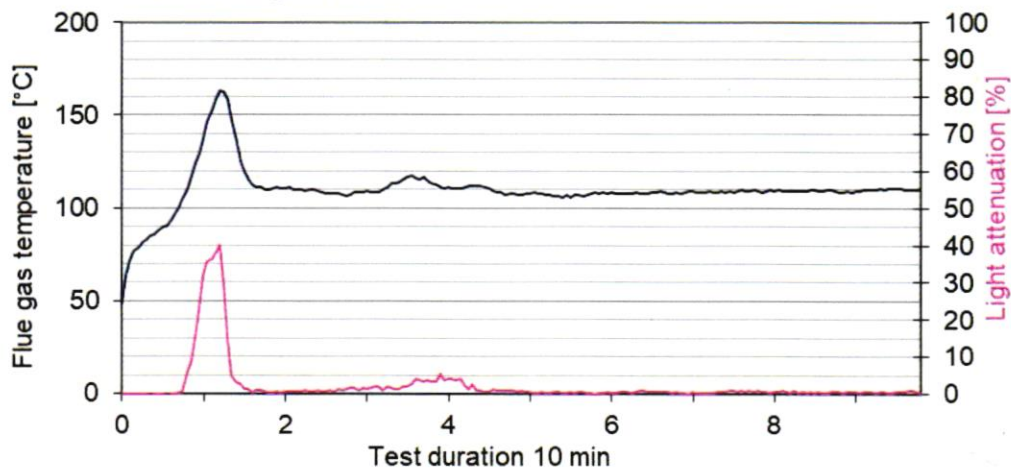


measurement

#7995, PN39609: Kette

Max. flue temperature: 163°C, Smoke density integral: 22%/min

Residual length: 32 cm



„Brandschacht“-test #8139

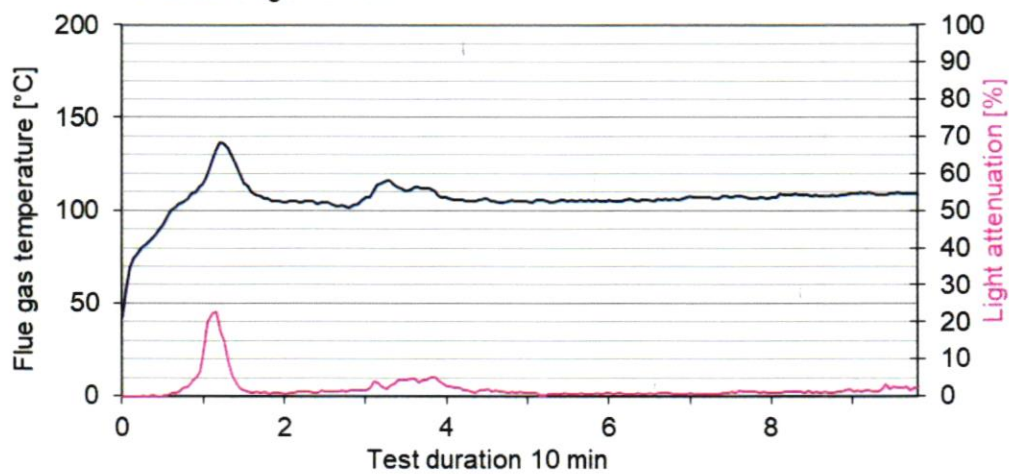


measurement

#8139, PN39609: Schuss

Max. flue temperature: 137°C, Smoke density integral: 20%min

Residual length: 34 cm



„Brandschacht“-test #8265

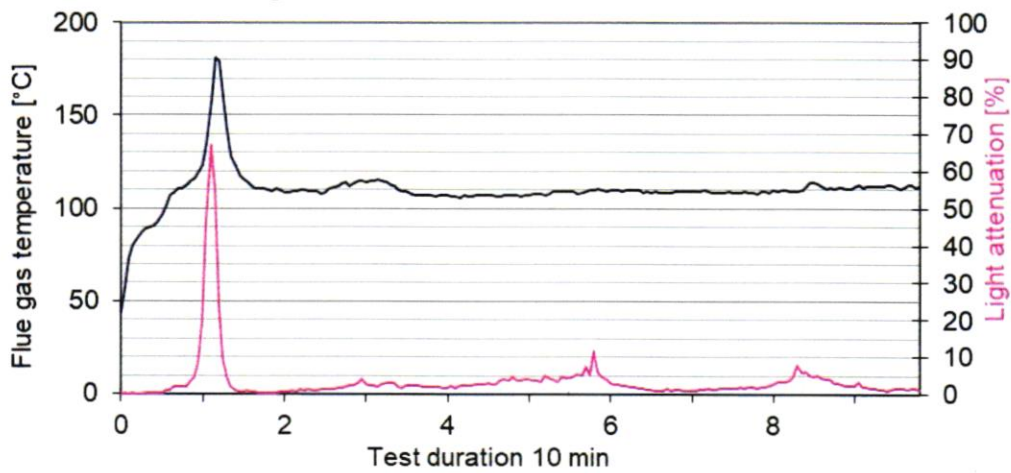


measurement

#8265, PN39609: Kette

Max. flue temperature: 181°C, Smoke density integral: 33%/min

Residual length: 36 cm



„Brandschacht“-test #8266

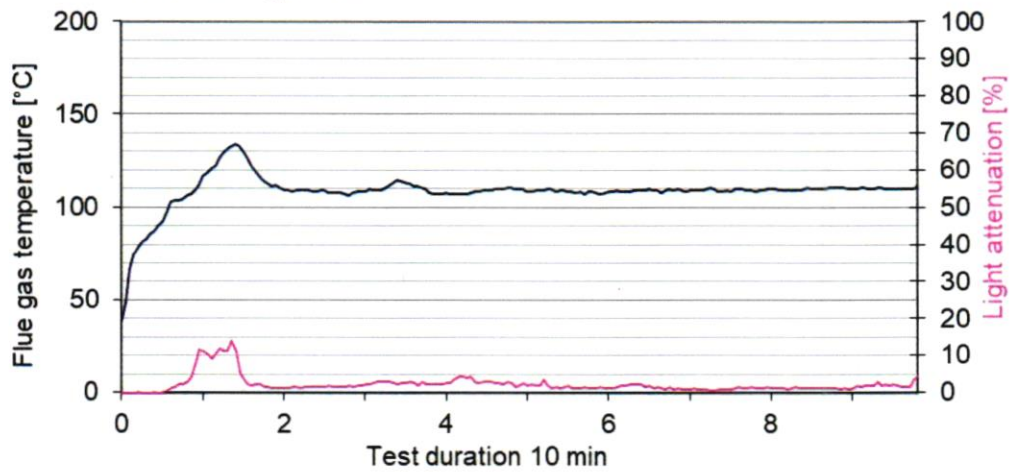


measurement

#8266, PN39609: Kette

Max. flue temperature: 134°C, Smoke density integral: 23%min

Residual length: 36 cm



**Test for normal flammability
 classifying B2 according to DIN 4102**

1. Description of test material in condition as delivered look at page 2
2. Preparation of samples
 Out of the material there have been cut samples for the ignitability apparatus.
 The samples were kept in a climate 23/50 until they reached constant weight.
3. Arrangement of samples:
 -glued on gypsum plasterboards-
4. Date of test CW 38 in 2024
5. Results

PN 39609: samples no.	edge-test						surface-test						Dim
	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	1	1	1	1	1	--	2	2	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	./.	./.	./.	./.	./.	--	./.	./.	--	--	--	--	S
max. flame height	3	3	3	3	3	--	2	2	--	--	--	--	cm
time	4	4	4	4	4	--	3	3	--	--	--	--	
self cessation of the flames end of afterflame ¹⁾	15	15	15	15	15	--	15	15	--	--	--	--	s
end of glowing ¹⁾	15	15	15	15	15	--	./.	./.	--	--	--	--	s
flames were extinguished after ¹⁾	./.	./.	./.	./.	./.	--	./.	./.	--	--	--	--	s
smoke development (visual)	little						very little						
dropping of burning material during 20 s ¹⁾	./.	./.	./.	./.	./.	--	./.	./.	--	--	--	--	s
Appearance after test: burned out till max. height 4 cm x width 1,5 cm													

¹⁾ time mentioned from the beginning of the test ²⁾ during 20 Sec -/- no appearance -- no information
 wa: warp direction / we: weft direction

6. Remarks and explanations to the testing procedure - none –
7. Opinion concerning the dropping of burning material
 The test for normal flammability shows no burning dripping material.