

Prüfinstitut für das Brandverhalten von Bauprodukten, Dipl.-Ing. (FH) Andreas Hoch
Bauaufsichtlich anerkannte Prüf-, Überwachungs- und Zertifizierungsstelle

TEST REPORT

PZ-Hoch-100287

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	Junkers & Müllers GmbH Bolksbuscher Straße 27 D – 41239 Mönchengladbach
description of samples	polyester fabric coated on both sides; with PES-self-adhesive-foil on the backside (colour: white)
name of the material	“TT MEDIATEX SELF-ADHESIVE”
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	31.03.2015 ^{*)}
result	The examined product meets the requirements of class B1 for “schwerentflammbare” (hardly flammable) building materials according to DIN 4102, part 1 (May 1998) , if fixed on massive or metallic surfaces.

This test report includes 4 pages and 3 enclosures.

Remark: If the above mentioned building material is not used as product according to MBO § 2, Abs. 9, Ziffer 1, 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.

^{*)} prolongation on request.

1. Description of test material in condition as delivered

PN 10860 and PN 11352 (additional delivery):

“TT MEDIATEX SELF-ADHESIVE“ colour: white

polyester fabric coated on both sides; with PES-self-adhesive-foil on the backside (colour: white)

characteristic values determined by the test laboratory:

thickness with protective foil: about 0,47 mm

thickness of protective foil: about 0,1 mm

area weight with protective foil: about 484 g/m²

area weight without protective foil: about 386 g/m²

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

2. Preparation of samples

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

3. Arrangement of samples

mounting: glued on gypsum plasterboards

#9867: glued on gypsum plasterboards in warp direction

#9868: glued on gypsum plasterboards in weft direction

#9869: glued on steel panels in weft direction

#0108: glued on gypsum plasterboards in weft direction

#0109: glued on gypsum plasterboards in weft direction

4. Date of test CW 02 and 11 in 2010

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

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#9867	#9868	#9869	#0108	#0109	
	flaming direction	warp	weft	weft	weft	weft	
1	Number of specimen arrangement acc. to. DIN 4102/T15, schedule 1	7	7	7	7	7	
2	Maximum flame height above bottom edge of the specimen	90	>100	90	>100	>100	cm
3	Time ¹⁾	1:27	1:25	1:12	0:47	1:10	min:s
4	Burn through / melting Time ¹⁾	./.	./.	./.	./.	./.	min:s
	Observations on the back side of the specimen						
5	Flames / Glowing Time ¹⁾	./.	./.	./.	./.	./.	min:s
6	Change of color Time ¹⁾	./.	./.	./.	./.	./.	min:s
7	Falling of burning droplets Start ¹⁾	./.	./.	./.	./.	./.	min:s
	Extent						
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	#9867	#9868	#9869	#0108	#0109	
	flaming direction	warp	weft	weft	weft	weft	
10	<u>Falling of burning droplets</u> Start ¹⁾	./.	./.	./.	./.	./.	min:s
	Extent	./.	./.	./.	./.	./.	
11	sporadic falling of burning droplets ²⁾	./.	./.	./.	./.	./.	
12	continuous falling of burning droplets ²⁾	./.	./.	./.	./.	./.	
13	Afterflame time at the bottom of the sieve (max.)	./.	./.	./.	./.	./.	min:s
14	<u>Impairment of the burner by dropping or falling material:</u> Time ¹⁾	./.	./.	./.	./.	./.	min:s
15	<u>Premature end of test</u> Final occurrence of burning at the specimen ¹⁾	./.	./.	./.	./.	./.	min:s
16	Time of eventually end of test ¹⁾	./.	./.	./.	./.	./.	min:s
17	<u>Afterflame after end of test</u> Time ¹⁾	./.	./.	./.	./.	./.	min:s
18	Number of specimen	./.	./.	./.	./.	./.	
19	Front side of specimen ²⁾	./.	./.	./.	./.	./.	
20	Back side of specimen ²⁾	./.	./.	./.	./.	./.	cm
21	flame length	./.	./.	./.	./.	./.	
22	<u>Afterglow after end of test</u> Time ¹⁾	./.	./.	./.	./.	./.	min:s
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> ≤ 400 % * min	141	144	142	115	149	% * min % * min
29	> 400 % * min ⁴⁾	./.	./.	./.	./.	./.	
30	Diagram: encl. no.	1	---	2	---	---	
31	<u>Residual lengths: individual value ³⁾</u> Specimen 1 Specimen 2 Specimen 3 Specimen 4	29 27 33 29	28 27 26 30	37 35 36 36	23 25 24 17	27 20 9 14	cm cm cm cm
32	<u>Average value, individual test ³⁾</u>	30	28	36	22	18	
33	<u>Photo of specimen in enclosure no.</u>	1	---	2	---	---	
34	<u>Flue gas temperature</u>	113	118	109	115	122	°C min:s
35	Maximum of average value Time ¹⁾	01:52	01:45	09:52	01:17	01:21	
36	Diagram: encl. no.	1	---	2	---	---	
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

lineno.	Measurement test-no.	Result with the tested specimen					Dim.
		#9867 warp	#9868 weft	#9869 weft	#0108 weft	#0109 weft	
1	residual length	30	28	36	18	22	cm
2	max. smoke temperature	113	118	109	122	115	°C
3	density of smoke - integral	141	144	142	149	115	%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 3).

8. Special remarks

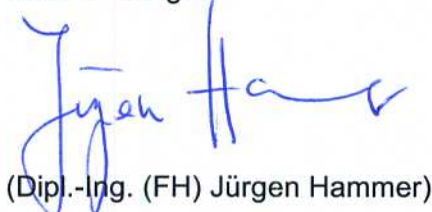
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, 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, 20.04.2010

clerk in charge:



(Dipl.-Ing. (FH) Jürgen Hammer)



Head of the test laboratory:

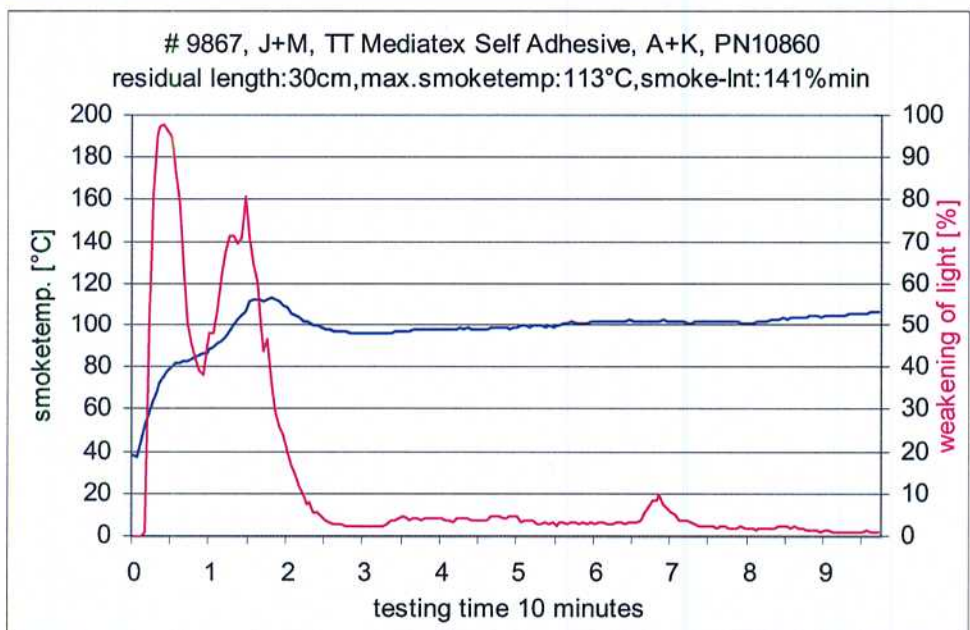


(Dipl.-Ing. (FH) Andreas Hoch)

„Brandschacht“-test #9867



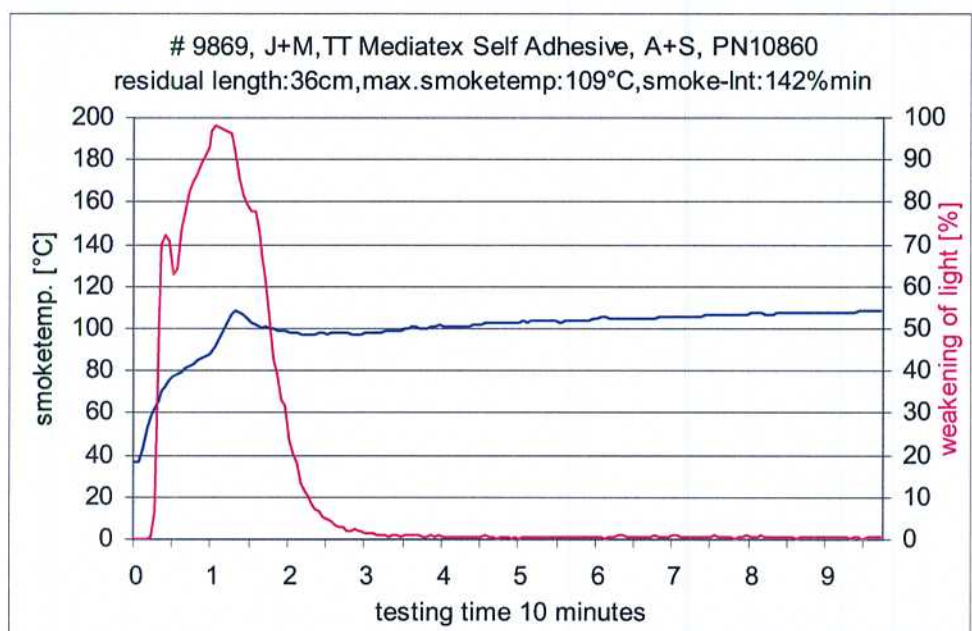
measurement



„Brandschacht“-test #9869



measurement



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 / glued on steel panels
flaming in warp and in weft direction

 4. Date of test CW 02 and CW 11 in 2010

 5. Results

PN 10860 / PN11352 -glued on gypsum plasterboards-	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	1	1	1	1	1	1	3	8	4	5	7	4	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
max. flame height	3	4	4	3	4	4	5	6	5	6	6	5	cm
time	6	9	10	9	11	12	14	13	11	12	14	10	
self cessation of the flames end of afterflame ¹⁾	15	15	15	15	15	15	15	15	15	15	15	15	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
smoke development (visual)	heavy						heavy						
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
Appearance after test: burned out till max. height 3,5 cm x width 2 cm													

PN 10860 / PN 11352 -glued on steel panels-	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	3	1	1	1	1	--	8	-/-	-/-	-/-	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	2	3	3	2	2	--	2	0	0	0	--	--	cm
time	13	18	10	7	7	--	14	-/-	-/-	-/-	--	--	
self cessation of the flames end of afterflame ¹⁾	15	15	15	15	15	--	15	-/-	-/-	-/-	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	heavy						little						
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	--	--	s
Appearance after test: burned out till max. height 2,5 cm x width 2 cm													

¹⁾ time mentioned from the beginning of the test ²⁾ during 20 Sec -/- no appearance -- no information

 6. Remarks and explanations to the testing procedure - none -

 7. Opinion concerning the dropping of burning material

The test for normal flammability shows no dropping burning material.