

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-240441

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	SAINT CLAIR TEXTILES 415, avenue de Savoie F-38110 Saint Clair de la Tour
description of samples	-mesh fabric consisting of polyester with pvc coating, in 3 different colours-
name of the material	„Sunview 12”
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	31.03.2029
result	The examined product meets in any colour the requirements of class B1 for “schwerentflammbare” (hardly flammable) building materials according to DIN 4102, part 1 (May 1998), suspended freely or with distance of >40 mm to same or other plain materials.

This test report includes 5 pages and 7 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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 38843: „Sunview 12“ colour: **beige**

-mesh fabric consisting of polyester with pvc coating-
side A: a little bit smoother

characteristic values determined by the test laboratory:

area weight: about 414g/m² thickness: about 0,56mm

PN 38844: „Sunview 12“ colour: **dark grey**

-mesh fabric consisting of polyester with pvc coating-
side A: a little bit smoother

characteristic values determined by the test laboratory:

area weight: about 416g/m² thickness: about 0,60mm

PN 38845: „Sunview 12“ colour: **white**

-mesh fabric consisting of polyester with pvc coating-
side A: a little bit smoother

characteristic values determined by the test laboratory:

area weight: about 397g/m² thickness: about 0,56mm

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: freely suspended

#7522:	flaming side A in warp direction	grey
#7523:	flaming side B in warp direction	grey
#7524:	flaming side B in weft direction	grey
#7526:	flaming side B in warp direction	beige
#7527:	flaming side B in warp direction	white

4. Date of test CW 13 in 2024

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

line no.	Measurement	Result with the tested specimen					Dim.
		#7522	#7523	#7524	#7526	#7527	
	Test number	#7522	#7523	#7524	#7526	#7527	
	flaming direction / side	warp / A	warp / B	weft / B	warp / B	warp / B	
	<u>colour of fabric</u>	grey		beige	white		
1	Number of specimen arrangement acc. to. DIN 4102/T15, schedule 1	1	1	1	1	1	
2	Maximum flame height above bottom edge of the specimen	50	50	50	50	40	cm
3	Time ¹⁾	0:06	0:05	0:06	0:07	0:04	min:s
4	Burn through / melting Time ¹⁾	0:08	0:06	0:07	0:05	0:06	min:s
5	Observations on the back side of the specimen Flames / Glowing Time ¹⁾	---	---	---	---	---	min:s
6	Change of colour Time ¹⁾	---	---	---	---	---	min:s
7	Falling of burning droplets Start ¹⁾	./.	./.	X 0:26	./.	./.	min:s
8	Extent sporadic falling of burning droplets ²⁾	---	---	X	---	---	
9	continuous falling of burning droplets ²⁾	---	---	---	---	---	min:s
10	Falling of burning droplets Start ¹⁾	./.	./.	./.	./.	./.	min:s
11	Extent sporadic falling of burning droplets ²⁾	---	---	---	---	---	
12	continuous falling of burning droplets ²⁾	---	---	---	---	---	
13	After flame time at the bottom of the sieve (max.)	./.	./.	0:02	./.	./.	min:s
14	Impairment of the burner by dropping or falling material: Time ¹⁾	./.	./.	./.	./.	./.	min:s
15	Final occurrence of burning at the specimen ¹⁾	3:10	2:07	2:10	3:10	1:44	min:s
16	Time of eventually end of test ¹⁾	./.	./.	./.	./.	./.	min:s
17	After flame after end of test Time ¹⁾	./.	./.	./.	./.	./.	min:s
18	Number of specimen	./.	./.	./.	./.	./.	
19	Front side of specimen ²⁾	./.	./.	./.	./.	./.	
20	Back side of specimen ²⁾	./.	./.	./.	./.	./.	
21	flame length	./.	./.	./.	./.	./.	cm

line no.	Measurement	Result with the tested specimen					Dim.
		#7522	#7523	#7524	#7526	#7527	
	Test number	#7522	#7523	#7524	#7526	#7527	
	flaming direction / side	warp / A	warp / B	weft / B	warp / B	warp / B	
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	30	52	18	41	23	% * min
29	> 400 % * min ⁴⁾	./.	./.	./.	./.	./.	
30	Diagram: encl. no.	1	2	3	4	5	
31	<u>Residual lengths: individual value³⁾</u>						
	Specimen 1	67	70	64	63	72	cm
	Specimen 2	58	56	65	69	69	cm
	Specimen 3	67	67	69	69	70	cm
	Specimen 4	71	67	72	68	63	cm
32	<u>Average value, individual test ³⁾</u>	66	65	68	67	69	
33	<u>Photo of specimen in enclosure no.</u>	1	2	3	4	5	
34	<u>Flue gas temperature</u>	115	119	115	120	120	°C
35	Maximum of average value Time ¹⁾	09:02	08:04	09:08	09:30	09:41	min:s
36	Diagram: encl. no.	1	2	3	4	5	
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

There were no additional tests proceeded because of the residual length of more than 45 cm.

7. Summary of results and additional establishments to Fire Behaviour

lineno.	measurement	Result with the tested specimen					Dim.
	test-no.	#7522 warp / A	#7523 warp / B	#7524 weft / B	#7526 warp / B	#7527 warp / B	
	<u>colour of fabric</u>	grey			beige	white	
1	residual length	66	65	68	67	69	cm
2	max. smoke temperature	115	119	115	120	120	°C
3	density of smoke - integral	30	52	18	41	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 6 & 7).

8. Special remarks

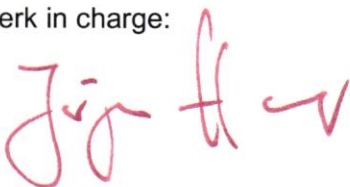
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, 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, 27.03.2024

clerk in charge:



(Dipl.-Ing.(FH) Jürgen Hammer)

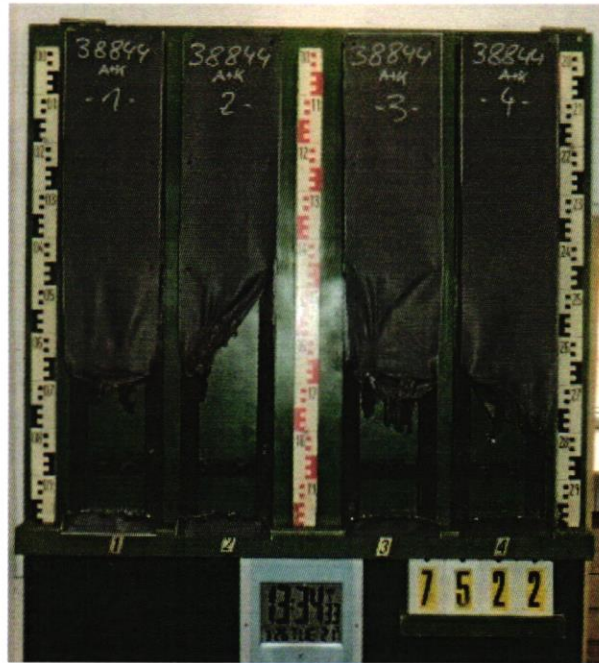


Head of the test laboratory:



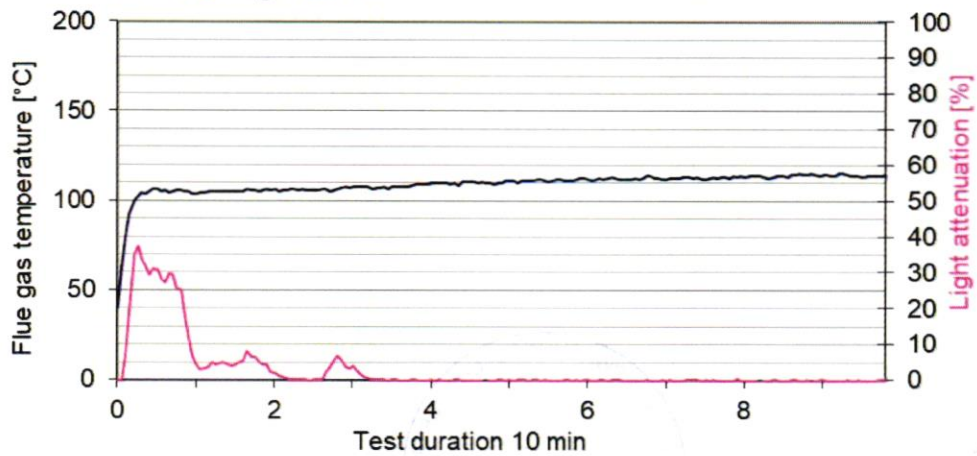
(Dipl.-Ing.(FH) Andreas Hoch)

„Brandschacht“-test #7522

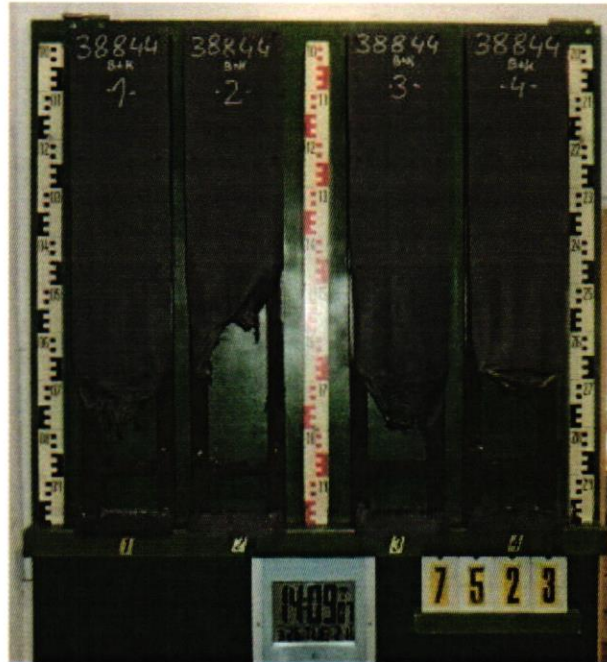


measurement

#7522, PN38844: SAINT CLAIR TEXTILES, "Sunview 12", A + K
Max. flue temperature: 115°C, Smoke density integral: 30%/min
Residual length: 66 cm

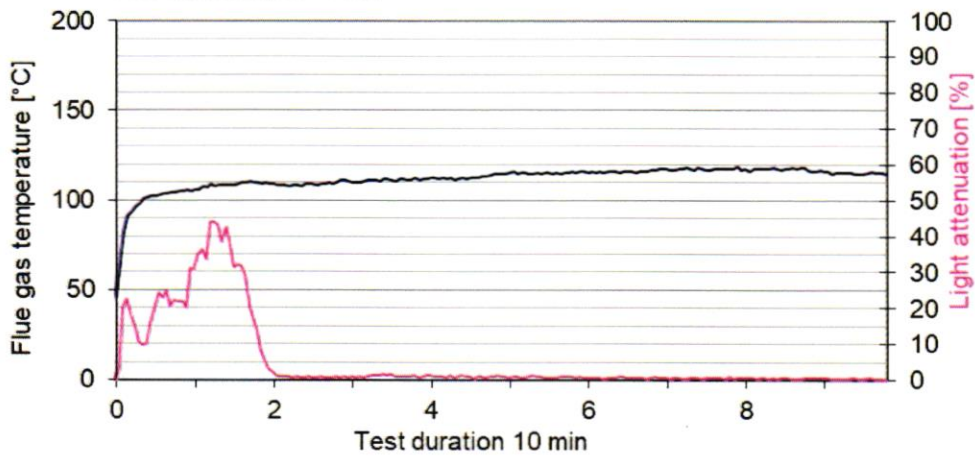


„Brandschacht“-test #7523

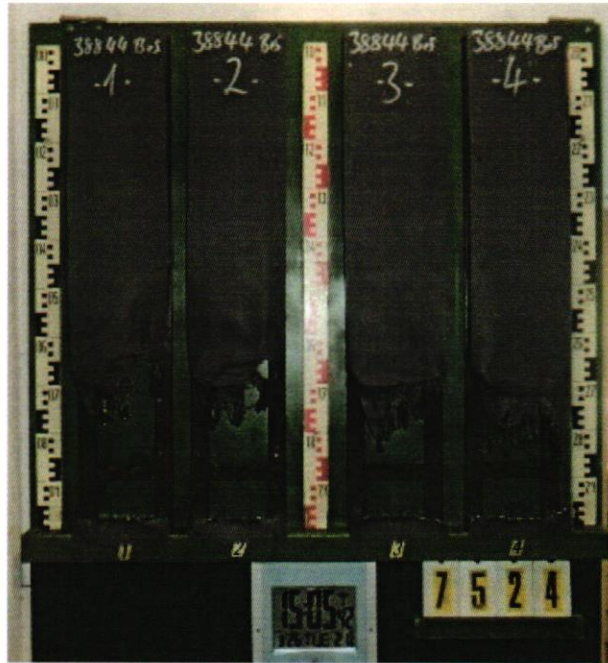


measurement

#7523, PN38844: SAINT CLAIR TEXTILES, "Sunview 12", B + K
Max. flue temperature: 119°C, Smoke density integral: 52%min
Residual length: 65 cm

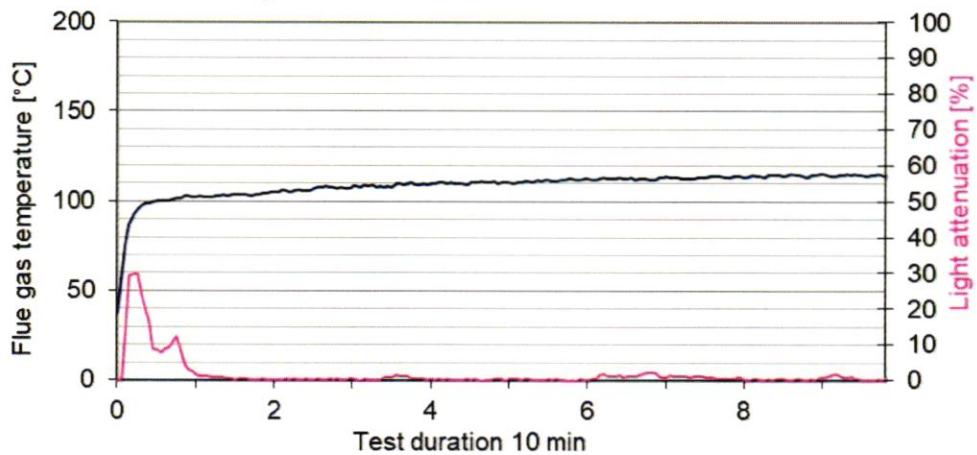


„Brandschacht“-test #7524

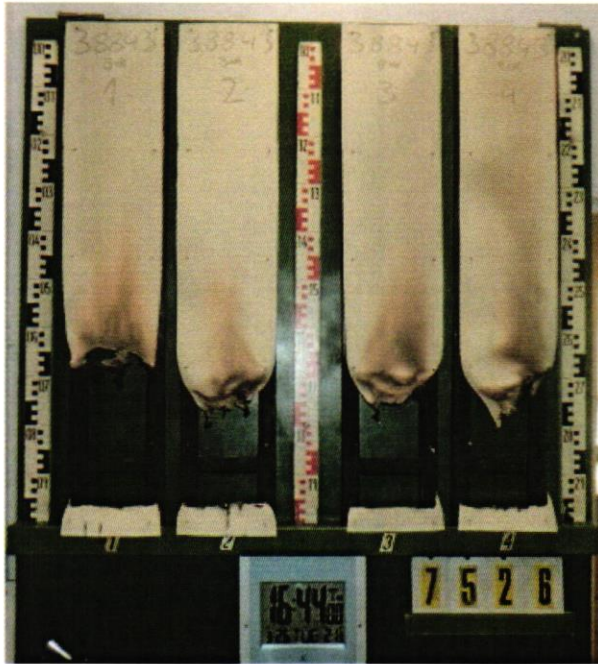


measurement

#7524, PN38844: SAINT CLAIR TEXTILES, "Sunview 12", B + S
Max. flue temperature: 115°C, Smoke density integral: 18%min
Residual length: 68 cm

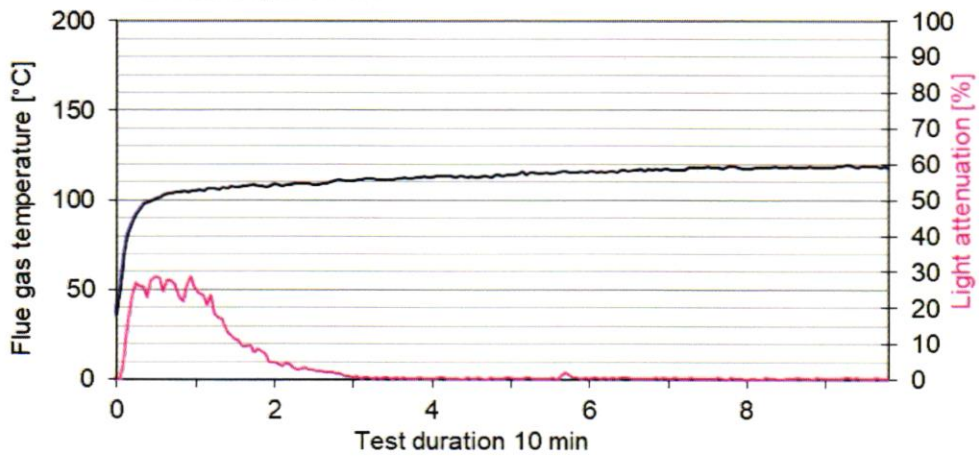


„Brandschacht“-test #7526

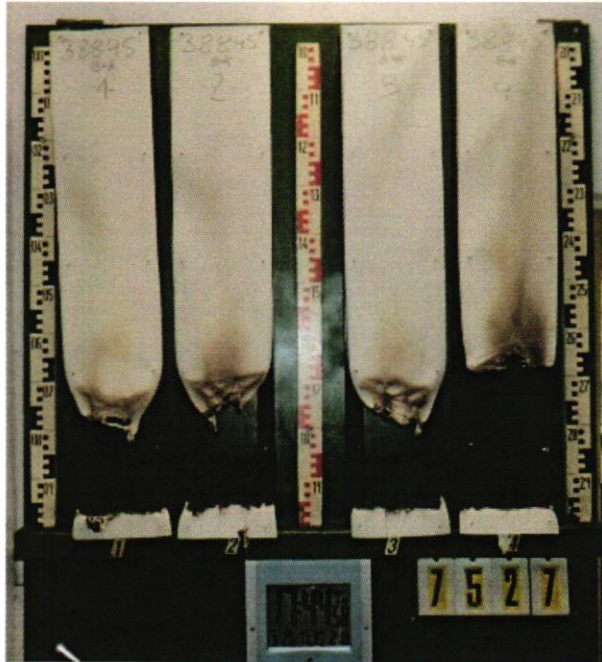


measurement

#7526, PN38843: SAINT CLAIR TEXTILES, "Sunview 12", B + K
Max. flue temperature: 120°C, Smoke density integral: 41%min
Residual length: 67 cm

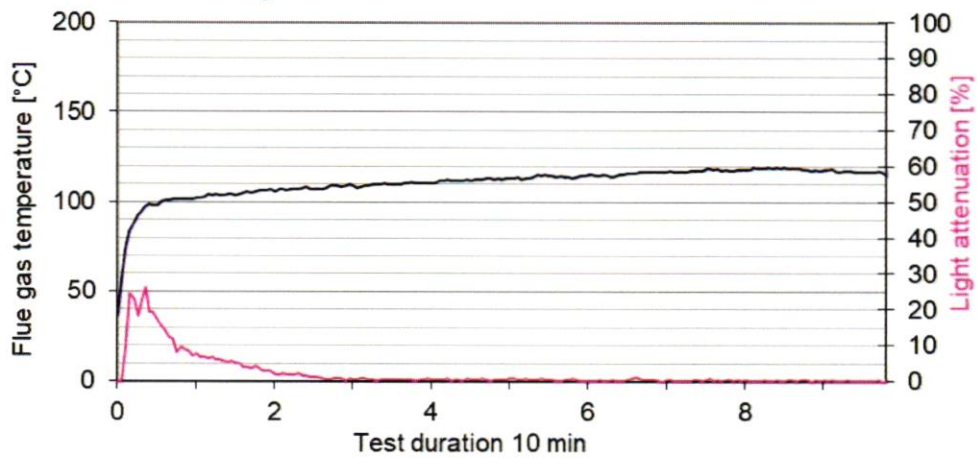


„Brandschacht“-test #7527



measurement

#7527, PN38845: SAINT CLAIR TEXTILES, "Sunview 12", B + K
Max. flue temperature: 120°C, Smoke density integral: 23%/min
Residual length: 69 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: -freely suspended-
Flaming in warp and in weft direction / Flaming side A and side B
4. Date of test CW 11 and 12 in 2024
5. Results

PN 38844: flaming side A in warp direction 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	--	3	--	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	./.	./.	./.	./.	./.	--	./.	--	--	--	--	--	S
max. flame height	13	12	12	13	13	--	11	--	--	--	--	--	cm
time	14	12	12	14	14	--	10	--	--	--	--	--	
self cessation of the flames end of afterflame ¹⁾	15	15	15	15	15	--	15	--	--	--	--	--	s
end of glowing ¹⁾	./.	./.	./.	./.	./.	--	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 13 cm x width 2,5 cm													

PN 38844: additional tests samples no.	edge-test						surface-test						Dim
	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	B/wa	A/we	B/we	--	--	--	B/wa	A/w a	B/we	--	--	--	
ignition ¹⁾	1	1	1	--	--	--	2	2	2	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	./.	./.	./.	--	--	--	./.	./.	./.	--	--	--	s
max. flame height	10	8	9	--	--	--	10	10	11	--	--	--	cm
time	11	5	7	--	--	--	12	10	9	--	--	--	
self cessation of the flames end of afterflame ¹⁾	15	13	11	--	--	--	14	13	12	--	--	--	s
end of glowing ¹⁾	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 10 cm x width 2 cm													

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

PN 38843: additional tests	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	A/wa	B/wa	A/we	B/we	--	--	A/wa	B/wa	A/we	B/we	--	--	
ignition ¹⁾	1	1	1	1	--	--	2	2	2	3	--	--	s
reaching the mark of measurement ¹⁾²⁾	./.	./.	./.	./.	--	--	./.	./.	./.	./.	--	--	s
max. flame height	9	8	11	9	--	--	8	9	8	7	--	--	cm
time	6	5	7	7	--	--	9	9	7	8	--	--	
self cessation of the flames end of afterflame ¹⁾	11	10	10	13	--	--	15	15	15	15	--	--	s
end of glowing ¹⁾	12	./.	./.	15	--	--	15	15	17	16	--	--	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 9 cm x width 2 cm													

PN 38845: additional tests	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	A/wa	B/wa	A/we	B/we	--	--	A/wa	B/wa	A/we	B/we	--	--	
ignition ¹⁾	1	1	1	1	--	--	2	2	2	2	--	--	s
reaching the mark of measurement ¹⁾²⁾	./.	./.	./.	./.	--	--	./.	./.	./.	./.	--	--	s
max. flame height	11	9	9	12	--	--	11	10	11	11	--	--	cm
time	9	6	5	10	--	--	7	10	6	6	--	--	
self cessation of the flames end of afterflame ¹⁾	10	9	7	13	--	--	15	11	15	13	--	--	s
end of glowing ¹⁾	./.	./.	./.	./.	--	--	16	15	16	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 12 cm x width 2 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.