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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-160207

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	Heytex Bramsche GmbH Heywinkelstraße 1 D-49565 Bramsche
description of samples	polyester fabric coated with PVC / colour: white 1. area weight: 507 g/m ² 2. area weight: 545 g/m ²
name of the material	„Artikel H6006“
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	31.01.2021
result	The examined product meets in an area weight from 507 g/m² to 545 g/m² the requirements of class B1 for “schwerentflammbar” (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 8 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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 23048: "Artikel H6006" colour: white

-polyester textile coated with PVC-
side B: with structure

characteristic values determined by the test laboratory:

area weight: about 545 g/m² thickness: about 0,45 mm

PN 23049: "Artikel H6006" colour: white

-polyester textile coated with PVC-
side B: with structure

characteristic values determined by the test laboratory:

area weight: about 507 g/m² thickness: about 0,41 mm

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

2. Preparation of samples

Samples with the dimensions 1000 mm height and 190 mm width were cut out from the material for fire testing. The samples were kept in climate chamber 23/50 until they reached constant weight.

3. Arrangement of samples

#7561: PN 23048 mounting: freely suspended

#7562: PN 23048 flaming side A in warp direction

#7563: PN 23048 flaming side B in warp direction

#7564: PN 23049 flaming side A in weft direction

#7574: PN 23049 flaming side A in warp direction

#7575: PN 23049 flaming side A in warp direction



4. Date of test CW 08 in 2016

5.1 Results (part 1)

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

line no.	Measurement	Result with the tested specimen						Dim.
		#7561	#7562	#7563	#7564	#7574	#7575	
	Test number							
	flamed direction	A	B	A	A	A	A	
	flamed side	warp	warp	weft	warp	warp	warp	
	number	PN 23048			PN 23049			
1	Number of specimen arrangement acc. to DIN 4102/T15, schedule 1	1	1	1	1	1	1	
2	Maximum flame height above bottom							
3	edge of the specimen Time ¹⁾	70 0:17	50 0:09	50 0:10	60 0:10	50 0:08	50 0:07	cm min:s
4	Burn through / melting Time ¹⁾	0:11	0:10	0:10	0:10	0:09	0:08	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 0:25/0:58	./.	X 0:41/5:56	X 0:26	./.	min:s
8	Extent							
9	sporadic falling of burning droplets ²⁾ continuous falling of burning droplets ²⁾	./.	X ./.	./.	X ./.	X ./.	./.	min:s
10	Falling of burning droplets Start ¹⁾	./.	./.	./.	./.	./.	./.	min:s
11	Extent							
12	sporadic falling of burning droplets ²⁾ continuous falling of burning droplets ²⁾	./.	./.	./.	./.	./.	./.	
13	Afterflame time at the bottom of the sieve (max.)	./.	0:13/0:15	./.	0:09/0:53	0:15	./.	min:s
14	Impairment of the burner by dropping or falling material: Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
15	Premature end of test							
16	Final occurrence of burning at the specimen ¹⁾ Time of eventually end of test ¹⁾	./.	./.	./.	./.	./.	./.	min:s
17	Afterflame 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.
	Test number	#7561	#7562	#7563	#7564	#7574	#7575	
	flamed direction flamed side	A warp	B warp	A weft	A warp	A warp	A warp	
22	Afterglow after end of test	./.	./.	./.	./.	./.	./.	
23	Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
24	Number of specimen	./.	./.	./.	./.	./.	./.	
25	Place of appearance	./.	./.	./.	./.	./.	./.	
26	Lower half of the specimen ²⁾	./.	./.	./.	./.	./.	./.	
27	Upper half of the specimen ²⁾	./.	./.	./.	./.	./.	./.	
28	Front side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
29	Back side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
30	Density of smoke							
	≤ 400 % * min	99	43	21	55	23	26	% * min
	> 400 % * min ⁴⁾	./.	./.	./.	./.	./.	./.	% * min
	Diagram: encl. no.	1	2	3	4	5	6	
31	Residual lengths: individual value ³⁾							
	Specimen 1	45	65	63	62	59	59	cm
	Specimen 2	45	54	58	56	53	59	cm
	Specimen 3	46	54	59	57	64	62	cm
	Specimen 4	49	58	58	54	58	63	cm
32	Average value, individual test ³⁾	46	58	60	57	59	61	
33	Photo of specimen in enclosure no.	1	2	3	4	5	6	
34	Flue gas temperature	117	120	117	119	110	115	°C
35	Maximum of average value	09:45	09:33	09:57	09:30	09:27	09:24	min:s
36	Time ¹⁾							
	Diagram: encl. no.	1	2	3	4	5	6	
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

line no.	measurement	Result with the tested specimen						dim ensi on
		#7561	#7562	#7563	#7564	#7574	#7575	
	test-no.							
	number							
	flaming direction / side	warp / A	warp / B	weft / A	warp / A	warp / A	warp / A	
1	residual length	46	58	60	57	59	61	cm
2	max. smoke temperature	117	120	117	119	110	115	°C
3	density of smoke - integral	99	43	21	55	23	26	%min
4	remarks: The Brandschacht"-test #7564 shows burning droplets. The two additional tests #7574 and #7575 didn't show burning droplets. Therefore the material counts as no burning dripping.							

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

Pursuant to additional tests in the ignitability apparatus this can be determined (appendix 7 & 8).

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, 17.05.2016

clerk in charge:



(Silke Biendara)

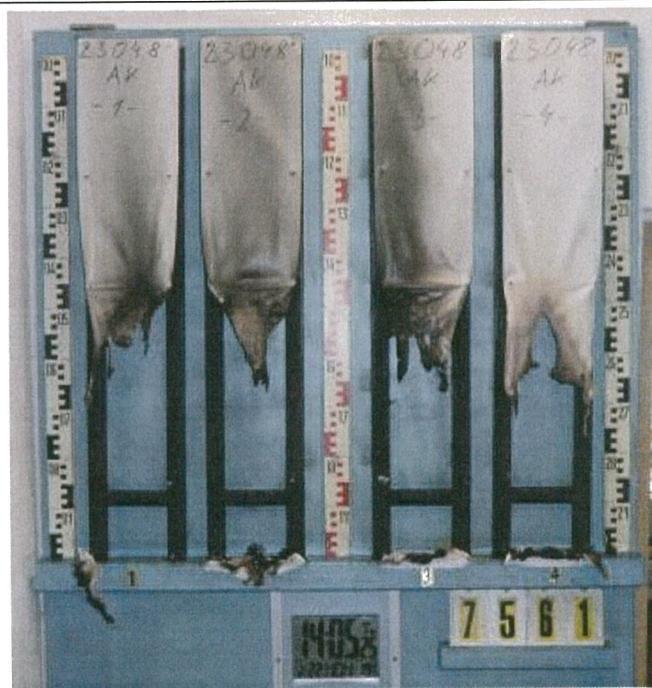


Head of the test laboratory:

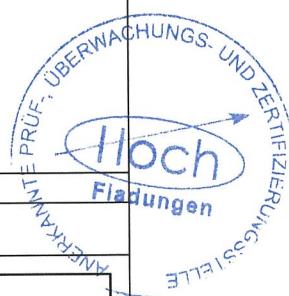


(Dipl.-Ing.(FH) Andreas Hoch)

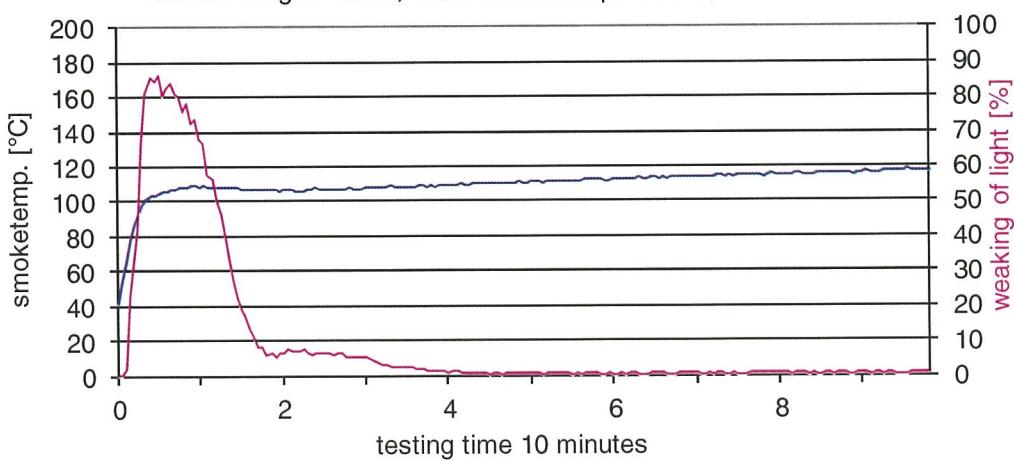
„Brandschacht“-test #7561



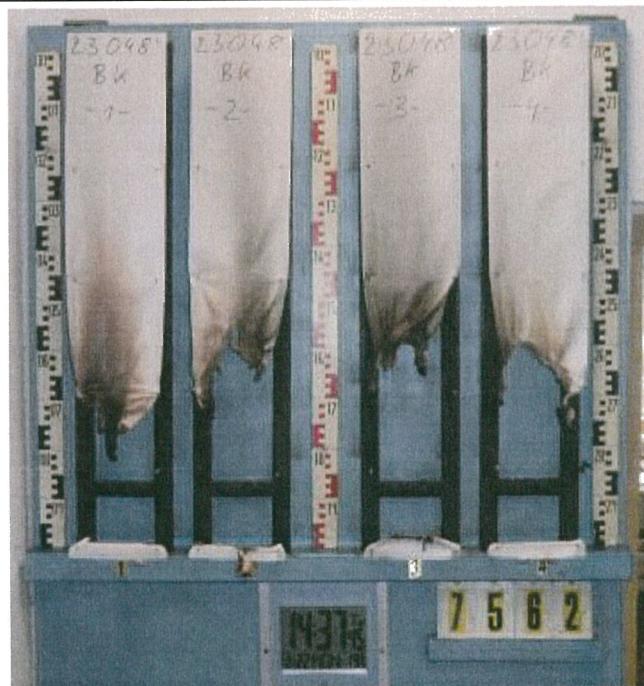
measurement



#7561 HEYTEX, "Artikel H6006", A warp, PN23048
residual lenght: 46cm, max. smoketemp.: 117°C, smoke-Int.: 99%min

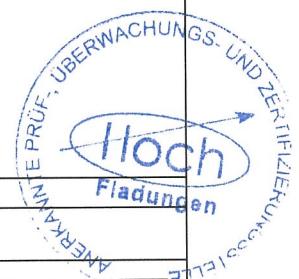
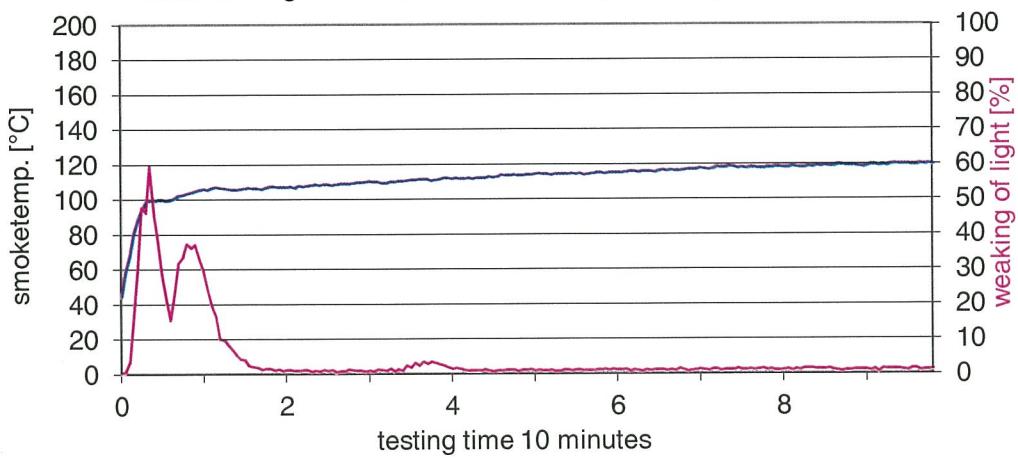


„Brandschacht“-test #7562



measurement

#7562 HEYTEX, "Artikel H6006", B warp, PN23048
residual length: 58cm, max. smoketemp.: 120°C, smoke-Int.: 43%min

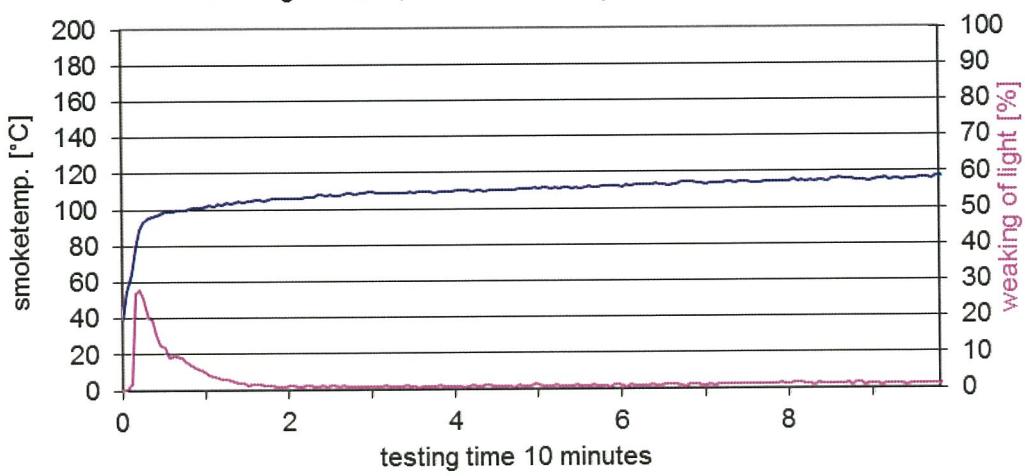


„Brandschacht“-test #7563



measurement

#7563 HEYTEX, "Artikel H6006", A werf, PN23048
residual length: 60cm, max. smoketemp.: 117°C, smoke-Int.: 21%min



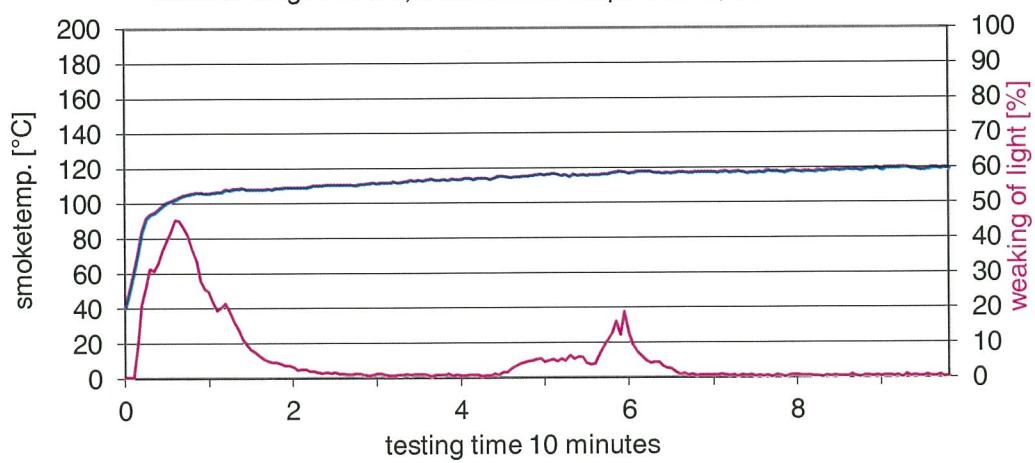
„Brandschacht“-test #7564



measurement



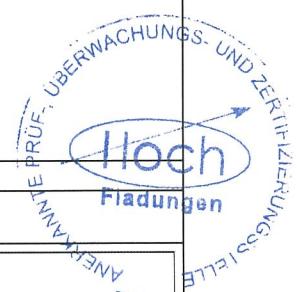
#7564 HEYTEX, "Artikel H6006", A warp, PN23049
residual length: 57cm, max. smoketemp.: 119°C, smoke-Int.: 55%min



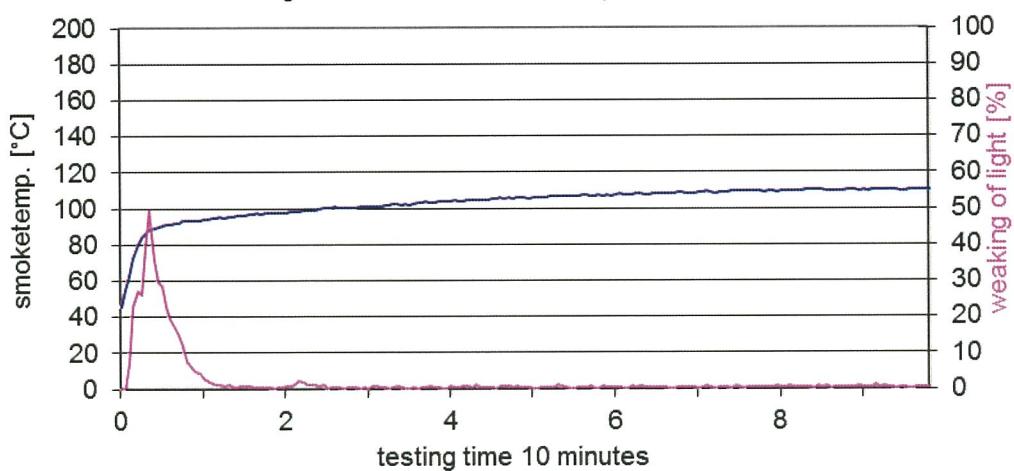
„Brandschacht“-test #7574



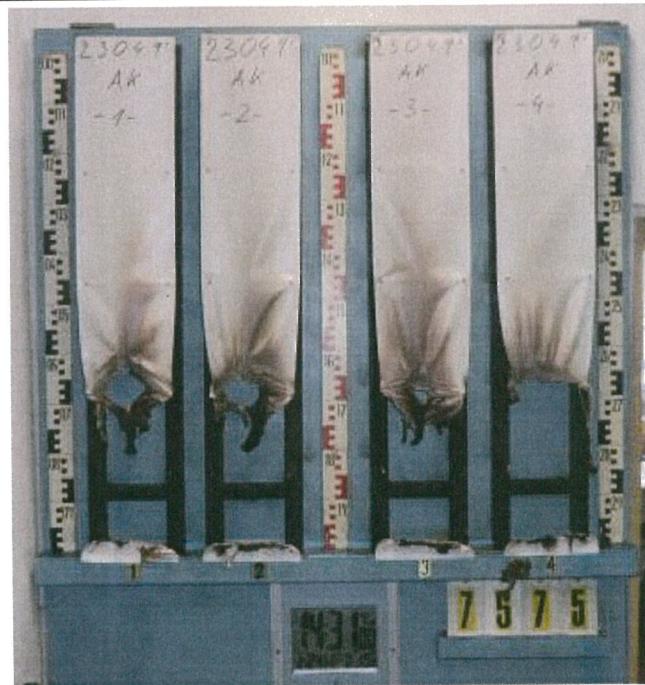
measurement



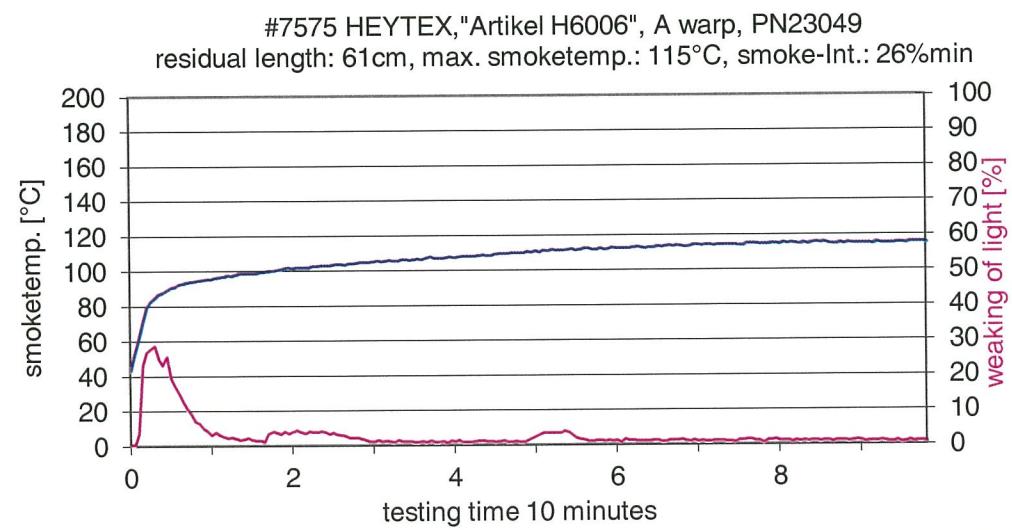
#7574 HEYTEX, "Artikel H6006", A warp, PN23049
residual length: 59cm, max. smoketemp.: 110°C, smoke-Int.: 23%min



„Brandschacht“-test #7575



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 -freely suspended-

flaming in warp and weft direction / flaming side A and side B

4. Date of test CW 07 in 2016

5. Results



PN 23048: flaming side A in weft direction	edge-test						surface-test						Dim
	1	2	3	4	5	6	1	2	3	4	5	6	
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	s
ignition ¹⁾	4	4	4	4	4	--	1	--	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
max. flame height	10	11	10	10	11	--	8	--	--	--	--	--	cm
time	14	14	12	13	14	--	8	--	--	--	--	--	--
self cessation of the flames end of afterflame ¹⁾	22	16	20	24	15	--	17	--	--	--	--	--	s
end of glowing ¹⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
smoke development (visual)	moderate - heavy						moderate - heavy						
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
Appearance after test: burned out till max. height 3 cm x width 10 cm.													

PN 23048 additional tests	edge-test						surface-test						Dim
	1	2	3	4	5	6	1	2	3	4	5	6	
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	s
ignition ¹⁾	1	1	1	--	--	--	4	4	4	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
max. flame height	7	8	10	--	--	--	10	10	10	--	--	--	cm
time	9	7	11	--	--	--	11	10	9	--	--	--	--
self cessation of the flames end of afterflame ¹⁾	15	19	21	--	--	--	15	15	15	--	--	--	s
end of glowing ¹⁾	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
smoke development (visual)	moderate - heavy						moderate - heavy						
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
Appearance after test: burned out till max. height 1 cm x width 11 cm													

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

PN 23049: additional tests	edge-test						surface-test						Dim
	1	2	3	4	5	6	1	2	3	4	5	6	
samples no.													
ignition ¹⁾	1	1	1	1	--	--	5	4	5	5	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	8	10	9	10	--	--	10	11	9	9	--	--	cm
time	7	9	8	11	--	--	14	10	12	13	--	--	
self cessation of the flames end of afterflame ¹⁾	15	15	15	21	--	--	15	14	20	15	--	--	s
end of glowing ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	moderate - heavy						moderate - heavy						
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s

Appearance after test: burned out till max. height 2 cm x width 11 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 burning / no dripping material.

