

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-170876

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

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

<b>company</b>	<b>DICKSON SAINT CLAIR</b> 415, avenue de Savoie F-38110 Saint Clair de la Tour
<b>description of samples</b>	polyester fabric with PVC-coating in 3 different colours
<b>name of the material</b>	„LAC 920“
<b>sampling</b>	by the company itself
<b>content of request</b>	Proof of flammability to classify building materials to class B1 "schwerentflammbar" according to DIN 4102, part 1
<b>validity of test report</b>	30.06.2022
<b>result</b>	<b>The examined product meets 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 &gt;40 mm to same or other plain materials.</b>

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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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 25864: "LAC 920" colour: grey**

-polyester fabric with PVC-coating-  
side A: mat

characteristic values determined by the test laboratory:

area weight: about 927 g/m<sup>2</sup>      thickness: about 0,71 mm

**PN 25865: "LAC 920" colour: beige**

-polyester fabric with PVC-coating-  
side A: mat

characteristic values determined by the test laboratory:

area weight: about 913 g/m<sup>2</sup>      thickness: about 0,75 mm

**PN 25866: "LAC 920" colour: white**

-polyester fabric with PVC-coating-  
side A: mat

characteristic values determined by the test laboratory:

area weight: about 910 g/m<sup>2</sup>      thickness: about 0,74 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 where 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 - freely suspended -

#9292	side A in warp direction	beige
#9293	side B in warp direction	beige
#9294	side A in weft direction	beige
#9298	side A in warp direction	grey
#9299	side A in warp direction	white

## 4. Date of test CW 30 in 2017

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

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#9292	#9293	#9294	#9298	#9299	
	flaming direction	warp	warp	weft	warp	warp	
	side	A	B	A	A	A	
	<u>colour of fabric</u>	beige			grey	white	
1	<u>Number of specimen arrangement</u> acc. to. DIN 4102/T15, schedule 1	1	1	1	1	1	
2	<u>Maximum flame height</u> above bottom edge of the specimen	70	70	70	70	60	cm
3	Time <sup>1)</sup>	0:16	0:14	0:15	0:15	0:13	min:s
4	<u>Burn through / melting</u> Time <sup>1)</sup>	0:19	0:18	0:23	0:24	0:13	min:s
5	<u>Observations on the back side of the specimen</u> Flames / Glowing Time <sup>1)</sup>	---	---	---	---	---	min:s
6	Change of color Time <sup>1)</sup>	---	---	---	---	---	min:s
7	<u>Falling of burning droplets</u> Start <sup>1)</sup>	---	---	---	---	---	min:s
8	Extent sporadic falling of burning droplets <sup>2)</sup>	---	---	---	---	---	
9	continuous falling of burning droplets <sup>2)</sup>	---	---	---	---	---	min:s
10	<u>Falling of burning droplets</u> Start <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
11	Extent sporadic falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	
12	continuous falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	
13	<u>Afterflame time at the bottom of the sieve (max.)</u>	---	---	---	---	---	min:s
14	<u>Impairment of the burner by dropping or falling material:</u> Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
15	<u>Premature end of test</u> Final occurrence of burning at the specimen <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
16	Time of eventually end of test <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
17	<u>Afterflame after end of test</u> Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
18	Number of specimen	./.	./.	./.	./.	./.	
19	Front side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
20	Back side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
21	flame length	./.	./.	./.	./.	./.	cm

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#9292	#9293	#9294	#9298	#9299	
	flaming direction	warp	warp	weft	warp	warp	
	side	A	B	A	A	A	
22	<u>Afterglow after end of test</u> Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
23	Number of specimen	./.	./.	./.	./.	./.	
	<u>Place of appearance</u>	./.	./.	./.	./.	./.	
24	Lower half of the specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
25	Upper half of the specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
26	Front side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
27	Back side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
28	<u>Density of smoke</u> ≤ 400 % * min	79	97	45	65	53	% * min
29	> 400 % * min <sup>4)</sup>	./.	./.	./.	./.	./.	% * min
30	Diagram: encl. no.	1	2	3	4	5	
31	<u>Residual lengths: individual value <sup>3)</sup></u>						
	Specimen 1	56	55	56	53	53	cm
	Specimen 2	50	56	56	53	49	cm
	Specimen 3	49	55	51	52	49	cm
	Specimen 4	51	53	53	49	49	cm
32	<u>Average value, individual test <sup>3)</sup></u>	<b>52</b>	<b>55</b>	<b>54</b>	<b>52</b>	<b>50</b>	
33	<u>Photo of specimen in enclosure no.</u>	1	2	3	4	5	
34	<u>Flue gas temperature</u>	123	121	121	122	125	°C
35	Maximum of average value Time <sup>1)</sup>	08:07	09:57	07:18	09:08	09:36	min:s
36	Diagram: encl. no.	1	2	3	4	5	
37	Remarks: - none -						

<sup>1)</sup> indication of times: from the begin of testing procedure

<sup>2)</sup> checked off if applicable

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

<sup>4)</sup> 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					dimension
	test-no.	#9292 warp side A	#9293 warp side B	#9294 weft side A	#9298 warp side A	#9299 warp side A	
	<u>colour of fabric</u>	beige			grey	white	
1	residual length	52	55	54	52	50	cm
2	max. smoke temperature	112	121	121	122	125	°C
3	density of smoke - integral	79	97	45	65	53	%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

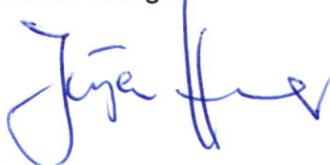
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, 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, 26.07.2017

clerk in charge:



(Dipl.-Ing. (FH) Jürgen Hammer)

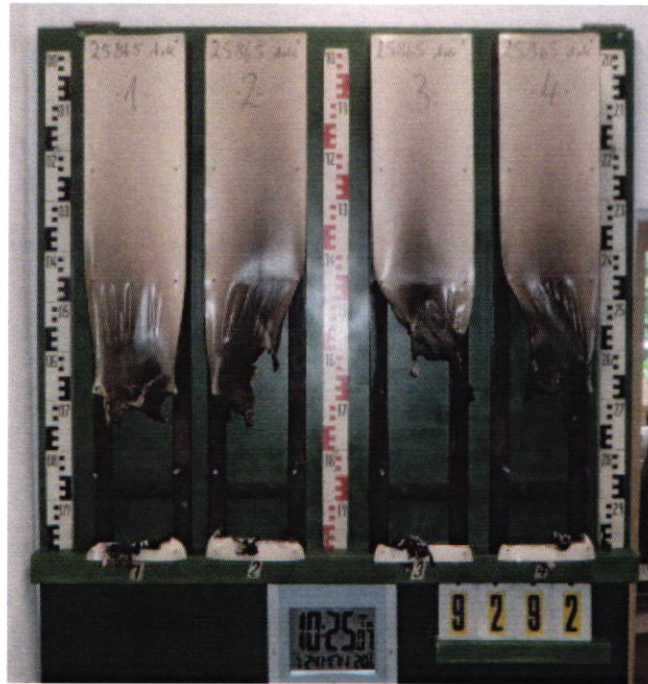


Head of the test laboratory:

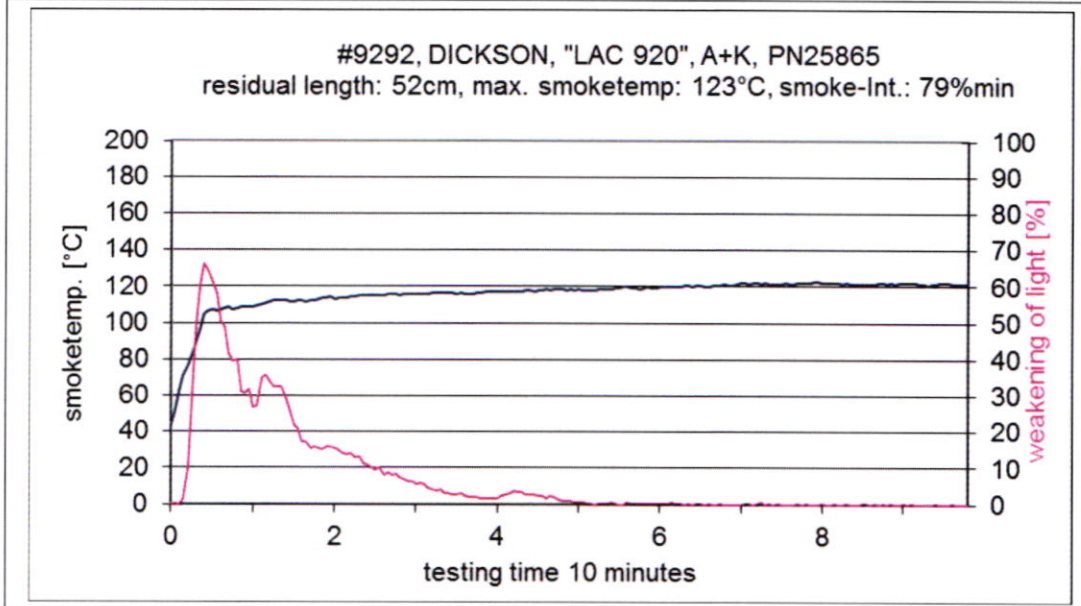


(Dipl.-Ing.(FH) Andreas Hoch)

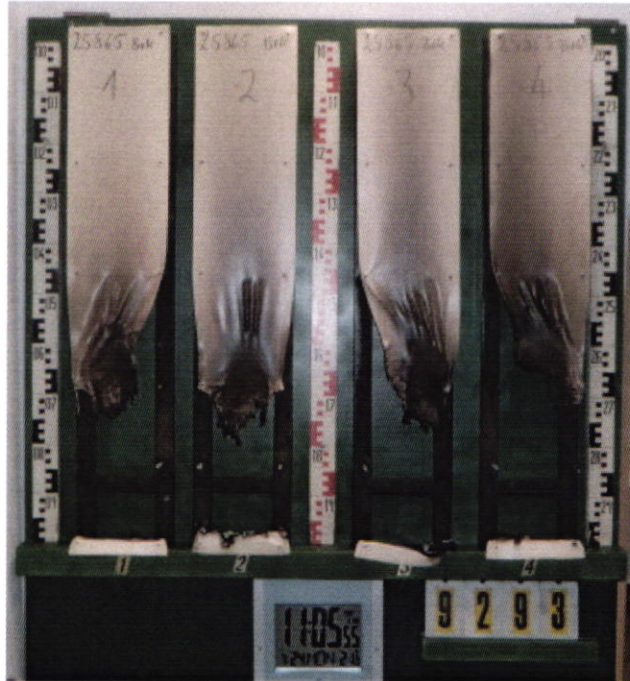
**„Brandschacht“-test #9292**



**measurement**

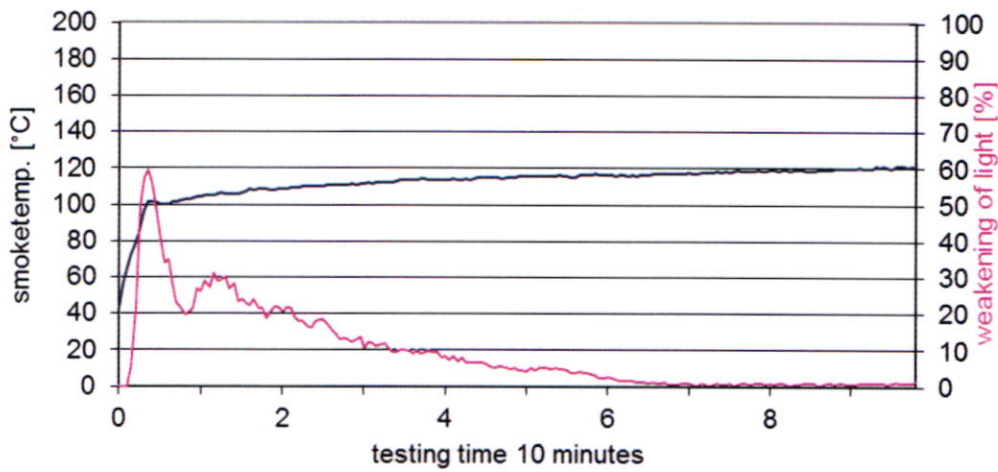


**„Brandschacht“-test #9293**



**measurement**

#9293, DICKSON, "LAC 920", B+K, PN25865  
residual length: 55cm, max. smoketemp: 121°C, smoke-Int.: 97%min

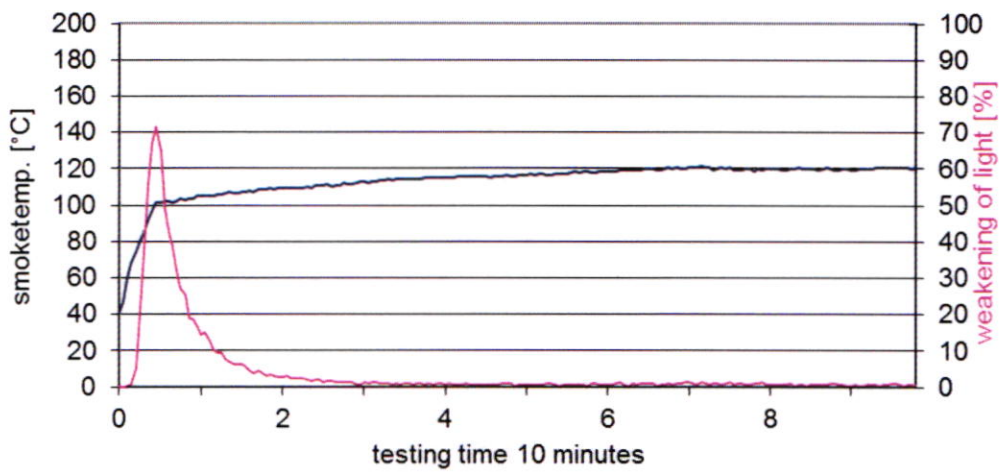


„Brandschacht“-test #9294



measurement

#9294, DICKSON, "Jet 620", A+S, PN25865  
 residual length: 54cm, max. smoketemp: 121°C, smoke-Int.: 45%/min



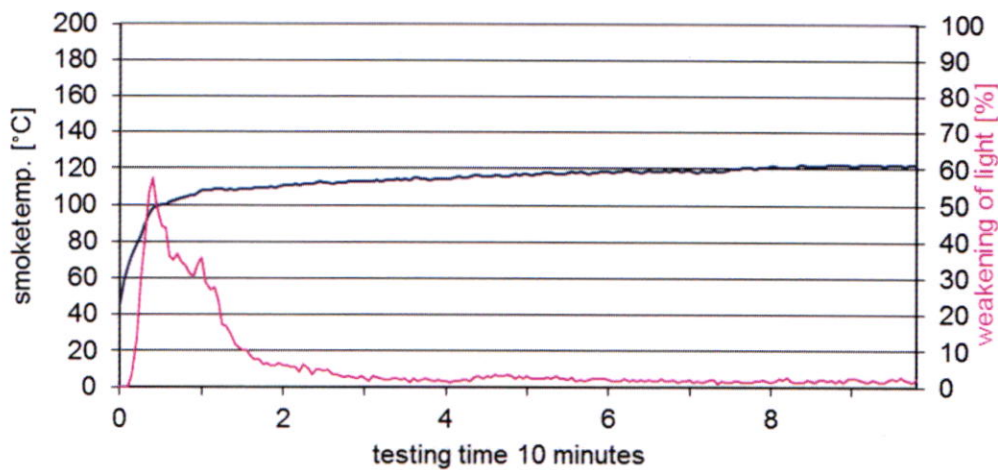


„Brandschacht“-test #9298



measurement

#9298, DICKSON, "LAC 920", A+K, PN25864  
residual length: 52cm, max. smoketemp: 122°C, smoke-Int.: 65%min

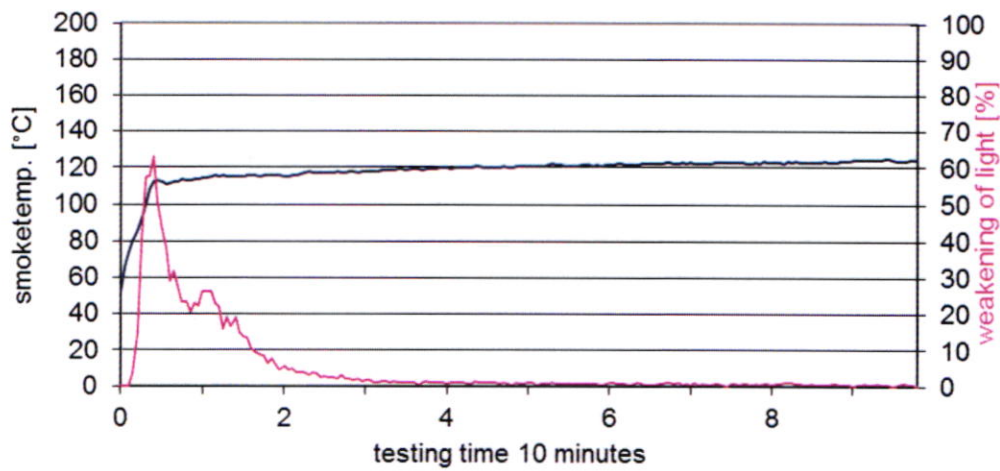


**„Brandschacht“-test #9299**



**measurement**

#9299, DICKSON, "LAC 920", A+K, PN25866  
residual length: 50cm, max. smoketemp: 125°C, smoke-Int.: 53%/min



**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 side A and side B in warp and in weft direction

4. Date of test CW 29 in 2017

5. Results

PN 25865: 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	
ignition <sup>1)</sup>	1	1	1	1	1	--	2	--	--	--	--	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
max. flame height	12	12	12	12	12	--	6	--	--	--	--	--	cm
time	15	15	15	15	15	--	15	--	--	--	--	--	s
self cessation of the flames end of afterflame <sup>1)</sup>	17	17	15	15	15	--	15	--	--	--	--	--	s
end of glowing <sup>1)</sup>	19	17	15	17	17	--	-/-						
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
smoke development (visual)	very heavy						very heavy						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
Appearance after test: burned out till max. height 11 cm x width 3 cm													

PN 25865: 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	
ignition <sup>1)</sup>	1	1	1	--	--	--	2	2	2	--	--	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
max. flame height	12	12	12	--	--	--	5	5	6	--	--	--	cm
time	15	15	15	--	--	--	15	15	15	--	--	--	s
self cessation of the flames end of afterflame <sup>1)</sup>	17	17	17	--	--	--	15	15	15	--	--	--	s
end of glowing <sup>1)</sup>	18	18	18	--	--	--	-/-	-/-	-/-	--	--	--	
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
smoke development (visual)	very heavy						very heavy						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
Appearance after test: burned out till max. height 11 cm x width 3 cm													

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

PN 2864: additional tests	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition <sup>1)</sup>	1	1	1	1	--	--	2	2	2	2	--	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	12	12	12	12	--	--	6	6	5	5	--	--	cm
time	15	15	15	15	--	--	15	15	15	15	--	--	s
self cessation of the flames end of afterflame <sup>1)</sup>	16	17	17	17	--	--	15	15	15	15	--	--	s
end of glowing <sup>1)</sup>	17	18	18	18	--	--	-/-	-/-	-/-	-/-	--	--	
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	very heavy						very heavy						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
Appearance after test: burned out till max. height 12 cm x width 3 cm													

PN 2866: additional tests	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition <sup>1)</sup>	1	1	1	1	--	--	2	3	2	3	--	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	11	11	11	11	--	--	6	5	5	5	--	--	cm
time	15	15	15	15	--	--	15	15	15	15	--	--	s
self cessation of the flames end of afterflame <sup>1)</sup>	19	17	17	17	--	--	15	15	15	15	--	--	s
end of glowing <sup>1)</sup>	19	19	19	18	--	--	-/-	-/-	-/-	-/-	--	--	
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	very heavy						very heavy						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
Appearance after test: burned out till max. height 10 cm x width 3 cm													

<sup>1)</sup> time mentioned from the beginning of the test      <sup>2)</sup> 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.