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www.reaction-to-fire.de

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-170879

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

company	DICKSON SAINT CLAIR 415, avenue de Savoie
	F-38110 Saint Clair de la Tour
description of samples	polyester fabric with PVC-coating / colour: white
name of the material	"LACOPAC"
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	30.06.2022
result	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 >40 mm to same or other plain materials

This test report includes 4 pages and 4 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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 25868: "LACOPAC" colour: white

-polyester fabric with PVC-coating-

side A: a little bit more glossy

characteristic values determined by the test laboratory:

area weight: about 693 g/m² thickness: about 0,50 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 -

#9300	side A in warp direction
#9301	side B in warp direction
#9302	side A in weft direction

4. Date of test CW 30 in 2017

5.	Results	The test has	been examined	according to	DIN 4102 ((Mai 1998)
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	Measurement	Resu	It with the f	ested spec	cimen	Dim.
2	Test number	#9300	#9301	#9302		
ine	flaming direction	warp	warp	weft		
	side	A	В	A		
1	Number of specimen arrangement acc. to. DIN 4102/T15, schedule 1	1	1	1		
2 3	<u>Maximum flame</u> height above bottom edge of the specimen Time ¹⁾	60 0:10	60 0:10	70 0:21		cm min:s
4	Burn through / melting Time ¹⁾	0:12	0:12	0:15		min:s
5	Observations on the back side of the specimen Flames / Glowing Time ¹⁾ Change of color Time ¹⁾	 	 		 	min:s min:s
7 8 9	Falling of burning dropletsStart 1)Extentsporadic falling of burning droplets 2)continuous falling of burning droplets 2)	 	 			min:s min:s
10	Falling of burning droplets Start ¹⁾ Extent	./. ./.	./.	./. ./.	./. ./.	min:s
11 12	sporadic falling of burning droplets ²⁾ continuous falling of burning droplets ²⁾	./.	./.	./.	./.	



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Π						
	Measurement	Resu	It with the t	ested spec	imen	Dim.
ŭ	Test number	#9300	#9301	#9302		
line	flaming direction	warp	warp	wett		
	side	A	В	A		
	Afterflame time at the bottom of the					
13	<u>sieve (max.)</u>					min:s
	Impairment of the burner by dropping					
	or falling material:					
14	Time ¹⁾	./.	./.	./.		min:s
	Premature end of test					
15	Final occurrence of burning at the	./.	./.	./.		min:s
	specimen 1)					
16	Time of eventually end of test ¹⁾	./.	./.	./.		min:s
	Afterflame after end of test					
17	Time ¹⁾	./.	./.	./.		min:s
18	Number of specimen	./.	./.	./.		
19	Front side of specimen 2)	./.	./.	./.		
20	Back side of specimen ²⁾	./.	./.	./.		
21	flame length	./.	./.	./.		cm
	Afterglow after end of test	./.	./.	./.		
22	Time ¹⁾	./.	./.	./.		min:s
23	Number of specimen	./.	./.	./.		
	Place of appearance	./.	./.	./.		
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	./.	./.	./.		
	Density of smoke					
28	≤ 400 % * min	51	26	34		% * min
29	> 400 % * min ⁴⁾	./.	./.	./.		% * min
30	Diagram: encl. no.	1	2	3		
	Residual lengths: individual value ³⁾					
	Specimen 1	63	62	56		cm
31	Specimen 2	55	57	58		cm
	Specimen 3	62	56	47		cm
	Specimen 4	53	62	59		cm
32	Average value, individual test ³⁾	58	59	55		
33	Photo of specimen in enclosure no.	1	2	3		
34	Flue gas temperature	120	120	119		°C
35	Maximum of average value	09:57	09:54	09:54		min's
	Time ''	00.01	00.01	00.01		1111.0
36	Diagram: encl. no.	1	2	3		
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

Ö	Measurement	Result with the tested specimen						
nen	test-no.	#9300	#9301	#9302		mel		
=		warp / side A	warp /side B	weft /side A		di		
1	residual length	58	59	55		cm		
2	max. smoke temperature	120	120	119		°C		
3	density of smoke - integral	51	26	34		%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 4).

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, im 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
 - o regular building materials for the required proof of accordance
 - \circ 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)



Prüfinstitut Hoch Lerchenweg 1 D-97650 Fladungen





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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

- CW 30 in 2017 4. Date of test
- 5. Results

PN 25868: side B in warp direction		edge-test surface-test											
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	Din
ignition ¹⁾	1	1	1	1	1		5						s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-		-/-						s
max. flame height	12	11	12	10	10		5						cm
time	15	15	15	15	15		15						s
self cessation of the flames end of afterflame ¹⁾	16	17	17	15	16		15						s
end of glowing ¹⁾	-/-	-/-	-/-	17	-/-		-/-						
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	-/-		-/-						s
smoke development (visual)		<u>۱</u>	very h	eavy					very l	neavy			
dropping of burning material during 20 s1)	-/-	-/-	-/-	-/-	-/-		-/-						s
Appearance after test: burned out till ma	ax. heiç	ght 14	cm x	width	3 cm								
PN 25868: additional tests			edge	test				s	urfac	e-tes	t		
PN 25868: additional tests samples no.	1	2	edge 3	test	5	6	1	2	3	e-tes	t 5	6	Dim
PN 25868: additional tests samples no. ignition ¹⁾	1	2	edge 3 1	4	5	6	1	2 5	3 5	e-tes	t 5 	6	Dim s
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾	1 1 -/-	2 1 -/-	edge 3 1 -/-	4 	5	6 	1 5 -/-	2 5 -/-	3 5 -/-	4 	t 5 	6 	s Dim
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height	1 1 -/- 8	2 1 -/- 7	edge- 3 1 -/- 10	-test 4 	5 	6 	1 5 -/- 7	2 5 -/- 12	3 5 -/- 7	4 	t 5 	6	s S Dim
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time	1 1 -/- 8 15	2 1 -/- 7 15	edge 3 1 -/- 10 15	test 4 	5 	6 	1 5 -/- 7 15	2 5 -/- 12 15	3 5 -/- 7 15	4 	t 5 	6 	s Dim Dim
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾	1 -/- 8 15 15	2 1 -/- 7 15 15	edge 3 1 -/- 10 15 15	test 4	5 	6 	1 5 -/- 7 15 15	2 5 -/- 12 15 15	3 5 -/- 7 15 15		t 5 	6 	s s cm s s
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾ end of glowing ¹⁾	1 -/- 8 15 15 -/-	2 1 -/- 7 15 15 -/-	edge- 3 1 -/- 10 15 15 -/-	test 4 	5 	6 	1 5 -/- 7 15 15 -/-	2 5 -/- 12 15 15 -/-	3 5 -/- 7 15 15 -/-		t 5 	6 	s s cm s s
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾ end of glowing ¹⁾ flames were extinguished after ¹⁾	1 -/- 8 15 15 -/- -/-	2 1 -/- 7 15 15 -/- -/-	edge- 3 1 -/- 10 15 15 -/- -/-	test 4 	5 	6 	1 5 -/- 7 15 15 -/- -/-	s 2 5 -/- 12 15 15 -/- -/-	3 5 -/- 7 15 15 -/- -/-		t 5 	6 	s s June 2014
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾ end of glowing ¹⁾ flames were extinguished after ¹⁾ smoke development (visual)	1 -/- 8 15 15 -/- -/-	2 1 -/- 7 15 15 -/- -/-	edge- 3 1 -/- 10 15 15 15 -/- -/- -/-	test 4 eavy	5 	6 	1 5 -/- 7 15 15 -/- -/-	2 5 -/- 12 15 15 -/- -/-	3 5 -/- 7 15 15 -/- -/- -/- very h	e-tes 4 	t 5 	6 	s s cm s s s
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾ end of glowing ¹⁾ flames were extinguished after ¹⁾ smoke development (visual) dropping of burning material during 20 s ¹⁾	1 -/- 8 15 15 -/- -/- -/-	2 1 -/- 7 15 15 -/- -/- -/-	edge- 3 1 -/- 10 15 15 -/- -/- very h -/-	test 4 eavy 	5 	6 	1 5 -/- 7 15 15 -/- -/- -/-	2 5 -/- 12 15 15 -/- -/- -/-	surfac 3 5 -/- 7 15 15 -/- -/- very h -/-	 	t 5 	6 	s s cm s s s
PN 25868: additional tests samples no. ignition ¹⁾ reaching the mark of measurement ¹⁾²⁾ max. flame height time self cessation of the flames end of afterflame ¹⁾ end of glowing ¹⁾ flames were extinguished after ¹⁾ smoke development (visual) dropping of burning material during 20 s ¹⁾ Appearance after test: burned out till ma	1 -/- 8 15 15 -/- -/- -/-	2 1 -/- 7 15 15 -/- -/- -/-	edge- 3 1 -/- 10 15 15 -/- -/- very h -/- cm x	test 4 eavy width	5 3 cm	6 	1 5 -/- 7 15 15 -/- -/-	2 5 -/- 12 15 15 -/- -/-	3 5 -/- 7 15 15 -/- -/- very h -/-	e-tes 4 neavy 	t 5 	6 	s s cm s s s s s

time mentioned from the beginning of the test during 20 Sec

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.