

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

# TEST REPORT

## PZ-Hoch-110627

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

<b>company</b>	<b>Alfred Clouth Lackfabrik GmbH &amp; Co.</b> Otto-Scheugenpflug-Str. 2 D – 63073 Offenbach
<b>description of samples</b>	two-component polyurethane-acrylic-resin-paint in 3 different colours
<b>name of the material</b>	„CLOUCRYL aromatenfrei“
<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>	30.06.2016 <sup>*)</sup>
<b>result</b>	<b>The examined product meets</b> <ul style="list-style-type: none"><li>• in any gloss level</li><li>• applied on hardly flammable particle boards</li></ul> <b>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 4 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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.

<sup>\*)</sup> Verlängerung auf Antrag

## 1. Description of test material in condition as delivered

### PN 13562: "CLOUCRYL aromatenfrei"

two-component polyurethane-acrylic-resin-paint **silk-mat**

The lacquer was applied on hardly flammable particle boards (12mm thickness) by the company "Alfred Clouth Lackfabrik GmbH & Co.":

-2x "CLOUCRYL aromatenfrei" – silk-mat with each 80 g/m<sup>2</sup> (2x ACL-144/11a)

-sanding with 280 grit

-Processing instructions must be observed.

characteristic values determined by the test laboratory:

area weight: about 7,26 kg/m<sup>2</sup>                      thickness: about 12,16mm

### PN 13563 "CLOUCRYL aromatenfrei"

two-component polyurethane-acrylic-resin-paint **deep-mat**

The lacquer was applied on hardly flammable particle boards (12mm thickness) by the company "Alfred Clouth Lackfabrik GmbH & Co.":

-2x "CLOUCRYL aromatenfrei" – deep-mat- with each 80 g/m<sup>2</sup> (2x ACL-144/8\_2a)

-sanding with 280 grit

-Processing instructions must be observed.

characteristic values determined by the test laboratory:

area weight: about 7,13 kg/m<sup>2</sup>                      thickness: about 12,11mm

### PN 13564 "CLOUCRYL aromatenfrei"

two-component polyurethane-acrylic-resin-paint **glossy**

The lacquer was applied on hardly flammable particle boards (12mm thickness) by the company "Alfred Clouth Lackfabrik GmbH & Co.":

-2x "CLOUCRYL aromatenfrei" –glossy- with each 80 g/m<sup>2</sup> (2x ACL-144/11a)

-sanding with 280 grit

-Processing instructions must be observed.

characteristic values determined by the test laboratory:

area weight: about 7,22 kg/m<sup>2</sup>                      thickness: about 12,02mm

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.  
sample preparation: "Alfred Clouth Lackfabrik GmbH & Co."

## 3. Arrangement of samples

mounting: -lacquer applied on hardly flammable particle boards-

#1720:	PN 13562	"CLOUCRYL aromatenfrei"	<b>silk-mat</b>
#1721:	PN 13563	"CLOUCRYL aromatenfrei"	<b>deep-mat</b>
#1722:	PN 13564	"CLOUCRYL aromatenfrei"	<b>glossy</b>
#1732:	PN 13562	"CLOUCRYL aromatenfrei"	<b>silk-mat</b>
#1733:	PN 13562	"CLOUCRYL aromatenfrei"	<b>silk-mat</b>

## 4. Date of test CW 25 and 26 in 2011

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

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#1720	#1732	#1733	#1721	#1722	
	flaming direction	PN13562	PN13562	PN13562	PN13563	PN13564	
	gloss level	silica-mat			deep-mat	glossy	
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	70	70	70	70	70	cm
3	Time <sup>1)</sup>	3:10	1:43	1:44	2:14	2:32	min:s
4	Burn through / melting Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
5	Observations on the back side of the specimen						
	Flames / Glowing Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
6	Change of color Time <sup>1)</sup>	X	X	X	X	X	min:s
7	Falling of burning droplets Start <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
8	Extent						
9	sporadic falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	min:s
10	continuous falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	min:s
11	Falling of burning droplets Start <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
12	Extent	./.	./.	./.	./.	./.	
13	sporadic falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	min:s
14	continuous falling of burning droplets <sup>2)</sup>	./.	./.	./.	./.	./.	min:s
15	Afterflame time at the bottom of the sieve (max.)	./.	./.	./.	./.	./.	min:s
16	Impairment of the burner by dropping or falling material: Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
17	Premature end of test						
18	Final occurrence of burning at the specimen <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
19	Time of eventually end of test <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
20	Afterflame after end of test Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
21	Number of specimen	./.	./.	./.	./.	./.	
22	Front side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
23	Back side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
24	flame length	./.	./.	./.	./.	./.	cm
25	Afterglow after end of test Time <sup>1)</sup>	./.	./.	./.	./.	./.	min:s
26	Number of specimen	./.	./.	./.	./.	./.	
27	Place of appearance	./.	./.	./.	./.	./.	
28	Lower half of the specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
29	Upper half of the specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
30	Front side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	
31	Back side of specimen <sup>2)</sup>	./.	./.	./.	./.	./.	

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#1720	#1732	#1733	#1721	#1722	
	flaming direction	PN13562	PN13562	PN13562	PN13563	PN13564	
	gloss level	[blacked out]			deep-mat	glossy	
28	<u>Density of smoke</u> ≤ 400 % * min	19	15	15	19	27	% * min
29	> 400 % * min <sup>4)</sup>	./.	./.	./.	./.	./.	% * min
30	Diagram: encl. no.	1	---	---	2	3	
31	<u>Residual lengths: individual value<sup>3)</sup></u>						
	Specimen 1	31	29	31	32	29	cm
	Specimen 2	31	31	32	30	29	cm
	Specimen 3	30	30	31	31	30	cm
	Specimen 4	33	31	31	32	31	cm
32	<u>Average value, individual test<sup>3)</sup></u>	<b>31</b>	<b>30</b>	<b>31</b>	<b>31</b>	<b>30</b>	
33	<u>Photo of specimen in enclosure no.</u>	1	---	---	2	3	
34	<u>Flue gas temperature</u>	122	122	122	124	132	°C
35	Maximum of average value Time <sup>1)</sup>	10:00	10:00	10:00	10:00	08:02	min:s
36	Diagram: encl. no.	1	---	---	2	3	
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**

-none-

**7. Summary of results and additional establishments to Fire Behaviour**

line no	Measurement test-no.	Result with the tested specimen					dimension
		#1720 PN 13562	#1732 PN 13562	#1733 PN 13562	#1721 PN 13563	#1722 PN 13564	
	gloss level	silk-mat			deep-mat	glossy	
1	residual length	31	31	31	31	30	cm
2	max. smoke temperature	122	122	122	124	132	°C
3	density of smoke - integral	19	15	15	19	27	%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**

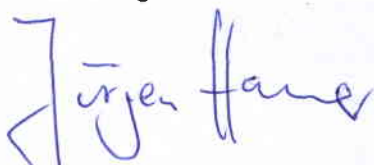
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, 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, 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, 18.04.2012

clerk in charge:



(Dipl.-Ing. (FH) Jürgen Hammer)

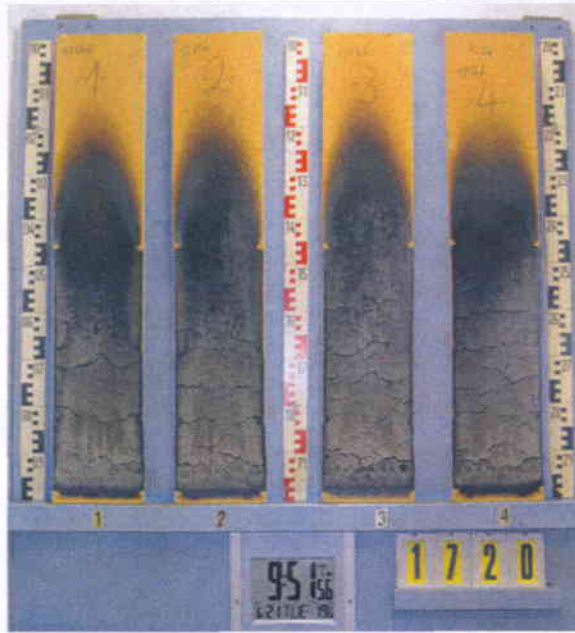


Head of the test laboratory:



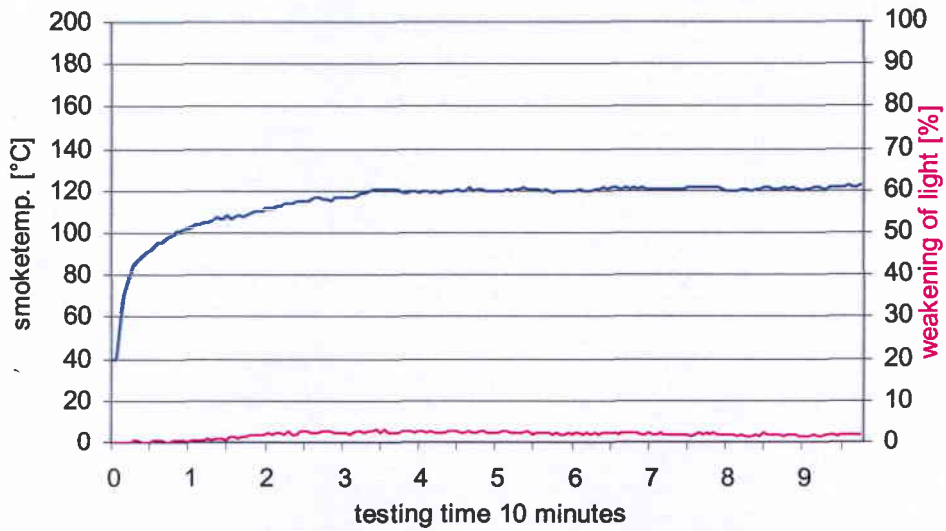
(Dipl.-Ing.(FH) Andreas Hoch)

**„Brandschacht“-test #1720**

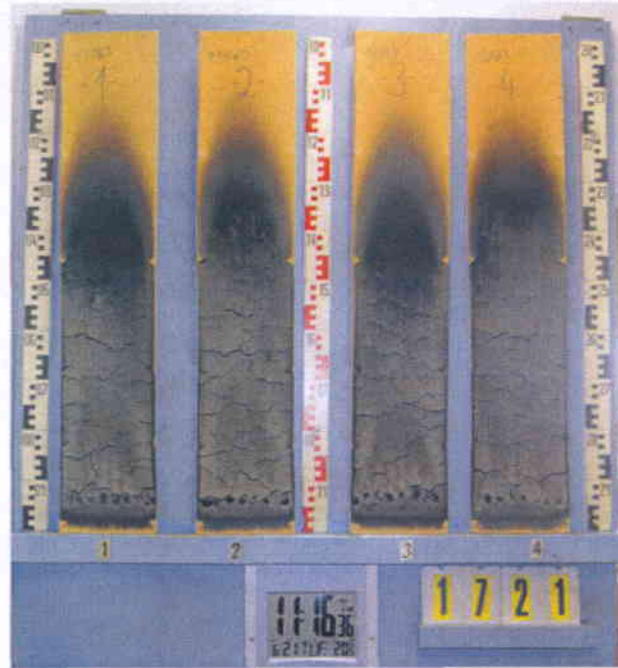


**measurement**

# 1720, CLOUTH, "Cloucryl aromatenfrei", silk-mat, PN13562  
residual length: 31cm,max.smoketemp:122°C,smoke-Int.:19%min

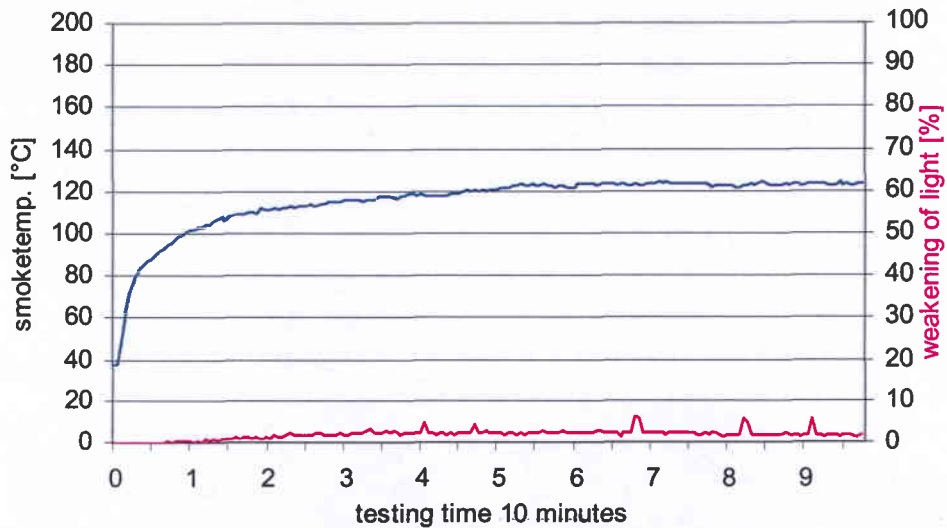


**„Brandschacht“-test #1721**

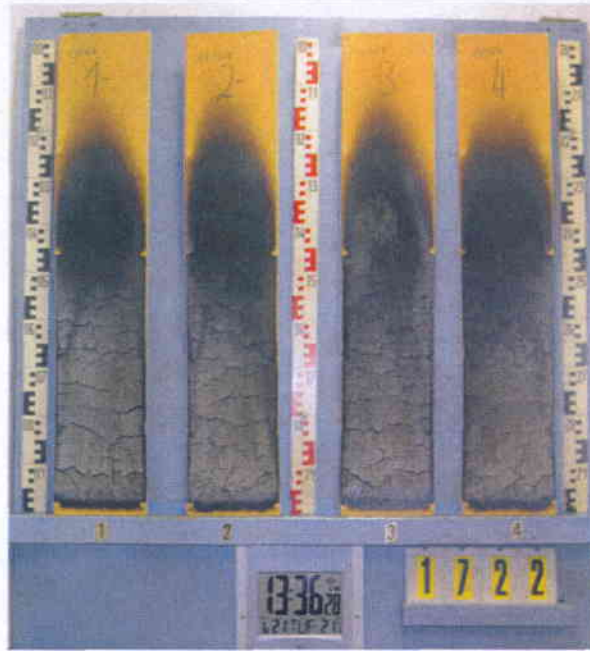


**measurement**

# 1721, CLOUTH, "Cloucryl aromatenfrei", deep-mat, PN13563  
residual length:31cm, max.smoketemp:124°C,smoke-Int.:19%min

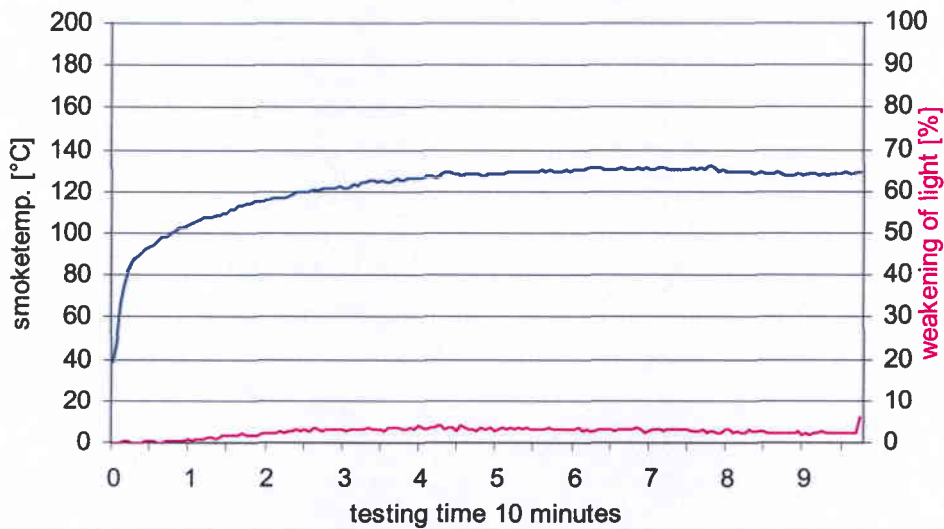


**„Brandschacht“-test #1722**



**measurement**

# 1722, CLOUTH, "Cloucryl aromatenfrei", glossy, PN13564  
residual length:30cm,max.smoketemp.:132°C,smoke-Int.:27%/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  
-lacquer applied on hardly flammable particle boards-
4. Date of test CW 25 in 2011
5. Results

PN 13562 / PN 13563:	edge-test (silk-mat)						edge-test (deep-mat)						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>	3	2	3	2	2	--	2	2	2	2	2	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	-/-	--	s
max. flame height	3	2	2	2	2	--	3	3	3	3	3	--	cm
time	12	13	12	12	13	--	12	11	11	12	11	--	
self cessation of the flames end of afterflame <sup>1)</sup>	15	15	15	15	15	--	15	15	15	15	15	--	s
end of glowing <sup>1)</sup>	15	15	15	15	15	--	15	15	15	15	15	--	
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	-/-	--	s
smoke development (visual)	moderate						moderate						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	-/-	-/-	-/-	-/-	-/-	--	s
Appearance after test: burned out till max. height 3,5 cm x width 1,5 cm													

PN 13564:	edge-test (glossy)						---						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>	2	2	2	1	1	--	--	--	--	--	--	--	s
reaching the mark of measurement <sup>1)2)</sup>	-/-	-/-	-/-	-/-	-/-	--	--	--	--	--	--	--	s
max. flame height	3	3	3	3	3	--	--	--	--	--	--	--	cm
time	13	11	12	12	12	--	--	--	--	--	--	--	
self cessation of the flames end of afterflame <sup>1)</sup>	15	15	15	15	15	--	--	--	--	--	--	--	s
end of glowing <sup>1)</sup>	15	15	15	15	15	--	--	--	--	--	--	--	
flames were extinguished after <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	--	--	--	--	--	--	s
smoke development (visual)	moderate						--						
dropping of burning material during 20 s <sup>1)</sup>	-/-	-/-	-/-	-/-	-/-	--	--	--	--	--	--	--	s
Appearance after test: burned out till max. height 3,5 cm x width 1,5 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.