MPA NRW.
Materialprüfungsamt Nordrhein-Westfalen
PRÜFEN • ÜBERWACHEN • ZERTIFIZIEREN

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TEST CERTIFICATE

No. 231000390

issued 16.08.2019

as proof of the Schwerentflammbarkeit according to DIN 4102-1 (May 1998)

English version

Sponsor: Kinnasand GmbH
Danziger Straße 6

26655 Westerstede

Date of application: 24.07.2019
Date of sampling: Samples were sent in by the sponsor
Samples delivered on 17.09.2014 und 26.07.2019
Date of testing: 13.10.2014, 05.11.2014, 12.11.2014, 17.11.2014, 24.11.2014, 12.08.2019 and 13.08.2019

Order

Testing according to DIN 4102-1 (May 1998) class B1

Description / Name of tested product

Decoration cloth “Relax 6745” made of polyester fibres

Applied test procedure

DIN 4102 part 1 (May 1998)

Remark: This test certificate is a translation of the original test certificate no. 231000390 issued 16.08.2019 in German language and is only allowed to be used together with the original test certificate.

This test certificate is valid until 15.08.2024.
The test results only relate to the above named product.
Any change in form or content to a test certificate and the reproduction of a shortened version can only be made by the approval of MPA NRW.
This test certificate consists of 11 pages and 1 enclosure.

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-PL-11142-01-02

egolf

Name of tested product: "Relax 6745"

Description:

Cloth made of polyester fibres
Mass per unit area: 381 g/m²
The cloth can be produced in different colours.

(Information given by the sponsor)

Colour of the tested cloths: a) white, b) rose, c) bluish grey, d) green grey

Table 1: Specific values of the tested material

		Minimum value	Arithmetic value	Maximum value
Thickness	mm	0,73	0,87	1,01
Mass per unit area	g/m^2	351	366	381
Density	kg/m^3	--	--	--

Special notes: None

Results of the Brandschacht test (part 1)

row-no.	Colour of the cloth:	measurements test specimen white A1	rose B1	bluish grey C1	bluish grey D1
1	No. of test specimen arrangement according to DIN 4102, part 15 , table 1	1	1	1	1
2	Max. flame height above bottom edge cm	40	40	40	40
	Time [1] min : s	0:30	0:30	0:30	0:30
4	Melt through / burn through Time[1] min : s	0:03	0:06	0:04	0:05
	Observations on the backside of the specimens				
5	Flames/smouldering Time [1] min : s	--[2]	--[2]	--[2]	--[2]
6	Discolouration Time [1] min : s	--[2]	--[2]	--[2]	--[2]
	Burning droplets				
7	Start [1] min : s	0:31	--[2]	0:14	0:09
	Extent				
8	sporadic burning droplets	x	--[2]	x	x
9	continually falling particles	--[2]	--[2]	--[2]	--[2]
	Falling particles which burns				
10	Start [1] min : s	--[2]	--[2]	--[2]	--[2]
11	sporadic falling parts	--[2]	--[2]	--[2]	--[2]
12	continually falling particles	--[2]	--[2]	--[2]	--[2]
13	Duration of the burning on the screen bottom (max.) min : s	--[2]	--[2]	--[2]	--[2]
	Interference of the burner flame by dripping /falling particles				
14	Time [1] min : s	--[2]	--[2]	--[2]	--[2]
	Early termination of the test				
15	End of burning at the specimen [1] min : s	--[2]	--[2]	--[2]	--[2]
16	Time of early cancellation of the test [1] min : s	--[2]	--[2]	--[2]	--[2]

[1] Time counting from the start of the test

Results of the Brandschachttest (part 2)

row-no.			measurements test specimen							
			A1		B1		C1		D1	
	Continuous burning after termination of the test									
17	Duration	min : s	--[2]		--[2]		--[2]		--[2]	
18	Number of specimens		--[2]		--[2]		--[2]		--[2]	
19	Front side of the specimen		--[2]		--[2]		--[2]		--[2]	
20	Back side of the specimen		--[2]		--[2]		--[2]		--[2]	
21	Flame length	cm	--[2]		--[2]		--[2]		--[2]	
	Smouldering after termination of the test									
22	Duration	min : s	--[2]		--[2]		--[2]		--[2]	
23	Number of specimens		--[2]		--[2]		--[2]		--[2]	
	Location									
24	Lower half of the specimens		--[2]		--[2]		--[2]		--[2]	
25	Upper half of the specimens		--[2]		--[2]		--[2]		--[2]	
26	Front side of the specimen		--[2]		--[2]		--[2]		--[2]	
27	Backside of the specimen		--[2]		--[2]		--[2]		--[2]	
	Smoke development									
28	≤ 400 % x min		6		3		8		4	
29	> 400 % x min		--[2]		--[2]		--[2]		--[2]	
30	Diagram in appendix		--		--		--		--	
	Residual lengths		61	62	60	64	58	56	60	63
31	Single values	cm	52	65	62	65	58	59	68	64
32	Average values	cm	60		63		58		64	
33	Photo of the specimen on page		--		--		--		--	
	Smoke temperature									
34	Maximum value of the averaged values	°C	111		115		106		116	
35	Time [1]	min : s	9:57		10:00		5:46		9:58	
36	Diagram in appendix Nr.		--		--		--		--	

37 Remarks:

The tests occurred on free hanging samples.
Test A: The raw side of the cloth was flamed in production direction.
Test B: The raw side of the cloth was flamed across the production direction.
Test C: The smooth side of the cloth was flamed in production direction.
Test D: The smooth side of the cloth was flamed across the production direction.

2) Did not occur

The test results were taken of the test report no. 230009703 of 01.12.2014.

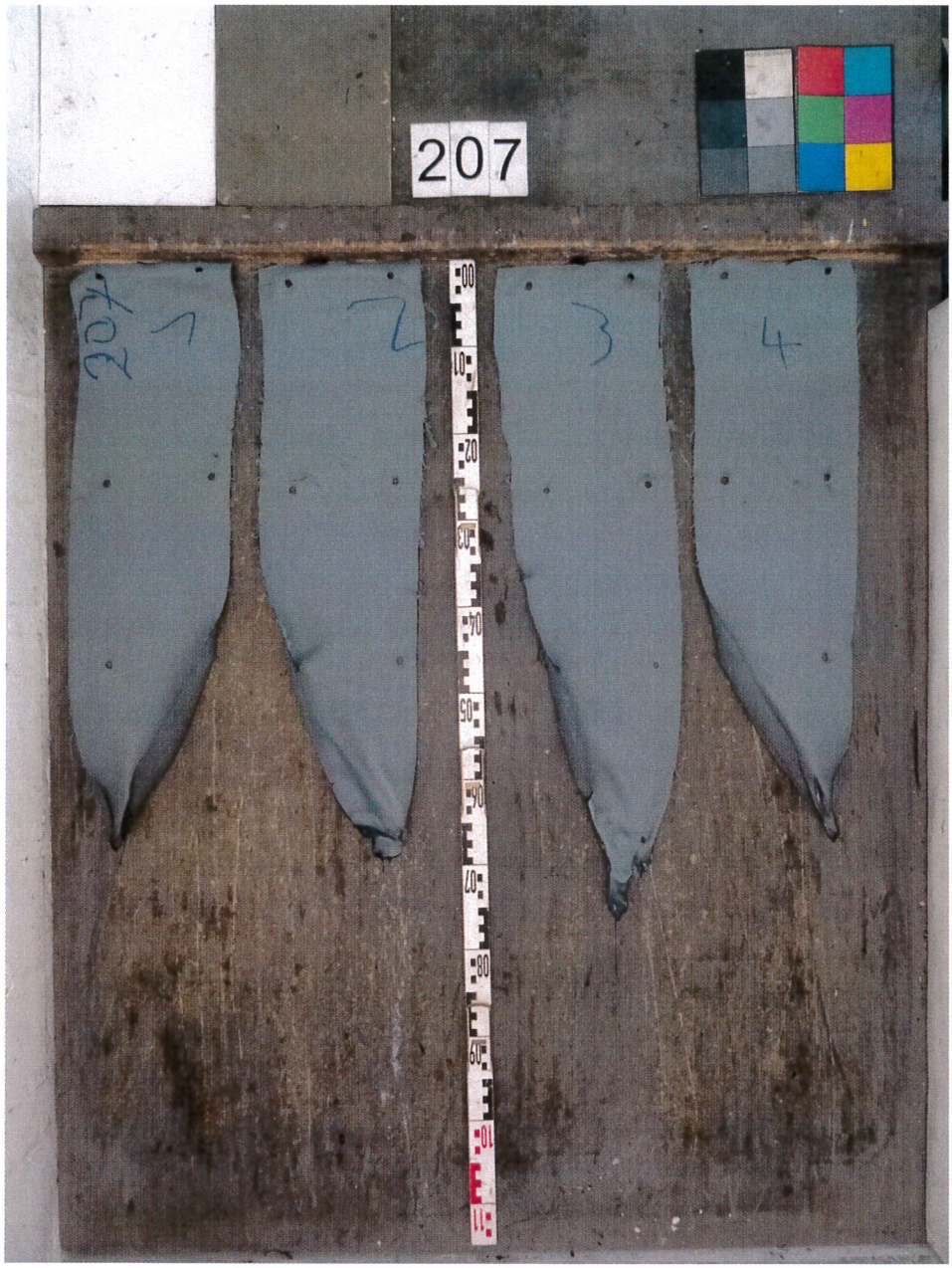
Results of the Brandschacht test (part 1)

row-no.	Colour of the cloth:	measurements test specimen			
		green grey A2			
1	No. of test specimen arrangement according to DIN 4102, part 15 , table 1	1			
2	Max. flame height above bottom edge cm	50			
	Time [1] min : s	0:30			
4	Melt through / burn through Time[1] min : s	0:08			
	Observations on the backside of the specimens				
5	Flames/smouldering Time [1] min : s	--[2]			
6	Discolouration Time [1] min : s	--[2]			
	Burning droplets				
7	Start [1] min : s	--[2]			
	Extent				
8	sporadic burning droplets	--[2]			
9	continually falling particles	--[2]			
	Falling particles which burns				
10	Start [1] min : s	--[2]			
11	sporadic falling parts	--[2]			
12	continually falling particles	--[2]			
13	Duration of the burning on the screen bottom (max.) min : s	--[2]			
	Interference of the burner flame by dripping /falling particles				
14	Time [1] min : s	--[2]			
	Early termination of the test				
15	End of burning at the specimen [1] min : s	--[2]			
16	Time of early cancellation of the test [1] min : s	--[2]			

[1] Time counting from the start of the test

Results of the Brandschachttest (part 2)										
row-no.			measurements test specimen							
			A2							
	Continuous burning after termination of the test									
17	Duration	min : s	--[2]							
18	Number of specimens		--[2]							
19	Front side of the specimen		--[2]							
20	Back side of the specimen		--[2]							
21	Flame length	cm	--[2]							
	Smouldering after termination of the test									
22	Duration	min : s	--[2]							
23	Number of specimens		--[2]							
	Location									
24	Lower half of the specimens		--[2]							
25	Upper half of the specimens		--[2]							
26	Front side of the specimen		--[2]							
27	Backside of the specimen		--[2]							
	Smoke development									
28	≤ 400 % x min		3							
29	> 400 % x min		--[2]							
30	Diagram in appendix		1							
	Residual lengths		61	60						
31	Single values	cm	60	60						
32	Average values	cm	61							
33	Photo of the specimen on page		7							
	Smoke temperature									
34	Maximum value of the averaged values °C		117							
35	Time [1]	min : s	9:52							
36	Diagram in appendix Nr.		1							
37	Remarks: The test occurred on free hanging samples. The smooth side of the cloth was flamed in production direction. 2) Did not occur									

Look of the samples of the test material



Picture 1: Look of specimen A2 after the test

Results of the B2-testing according to DIN 4102-01
(Tests with flaming the edge of free hanging samples)

Protection of edges: --

Point of flame attack: lower edge of the front side, flaming of the raw side of the white cloth in production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	14	11	7	11	10
Max. height of the flame (cm)	10	10	6	9	9
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur, 2) The test results were taken of the test report no. 230009703 of 01.12.2014.

Point of flame attack: lower edge of the front side, flaming of the raw side of the rose cloth across the production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	7	7	6	--[1)]	9
Max. height of the flame until 20 sec (cm)	6	5	4	11	8
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	27	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur, 2) The test results were taken of the test report no. 230009703 of 01.12.2014.

Results of the B2-testing according to DIN 4102-01
(Tests with flaming the edge of free hanging samples)

Protection of edges: --

Point of flame attack: lower edge of the front side, flaming of the smooth side of the bluish grey cloth in production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	12	8	7	7	7
Max. height of the flame (cm)	9	6	6	6	6
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur, 2) The test results were taken of the test report no. 230009703 of 01.12.2014.

Point of flame attack: lower edge of the front side, flaming of the smooth side of the bluish grey cloth across the production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	10	7	7	9	8
Max. height of the flame (cm)	4	4	4	6	5
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur, 2) The test results were taken of the test report no. 230009703 of 01.12.2014.

Point of flame attack: lower edge of the front side, flaming of the raw side of the green grey cloth across the production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	7	10	9	15	9
Max. height of the flame (cm)	6	7	6	10	8
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur

Results of the B2-testing according to DIN 4102-01
(Tests with flaming the surface of free hanging samples)

Point of flame attack: 40 mm above the lower edge of the front side, flaming of the raw side of the rose cloth across the production direction

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Self extinguishment (s)	7	4	6	8	6
Max. height of the flame (cm)	3	2	2	3	2
Continuous burning after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Continuous smouldering after 20 s	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Extinguishment of flames / glowing after passing the limit mark	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--[1)]	--[1)]	--[1)]	--[1)]	--[1)]

Remarks: 1) Did not occur, 2) The test results were taken of the test report no. 230009703 of 01.12.2014.

Assessment

- The product described on page 2 fulfilled the requirements of building products according to Baustoffklasse B2. According to the results, the product as tested in the described arrangement also fulfils the requirements of building products according to Baustoffklasse B1. In consequence the product can be classified as

  Baustoffklasse B1 (schwerentflammbare Baustoffe)

  according to DIN 4102 part 1 (Mai 1998). This assessment is only valid, if the distance of the cloth to equal or other plane building products is > 40 mm. The surface of the cloth may not be covered with paints, coatings or similar products. The resistance of the fire behaviour against climatic influences in the outside was not proofed. Therefore the product may be used as schwerentflammbar inside of buildings or in otherwise weather protected areas, only.

- The material does not produce burning droplets / particles.

Special remark

- The validity of this test certificate ends on 15.08.2024. The period of validity can be extended on application.

- Since the material is used as decoration cloth it is no building product according to §2 chapter 9 no. 1 MBO. An „allgemeines bauaufsichtliches Prüfzeugnis“ of the test institute respectively an „allgemeine bauaufsichtliche Zulassung“ of „Deutsches Institut für Bautechnik, Berlin“ is not necessary.

- This test certificate is not the requested approval, if the tested material is used as building product according to the German building regulations.

- This test report cannot be used as approval for the purpose of the national building code

Marking

The above mentioned material has to be marked as following:

- “Only schwerentflammbar (class DIN 4102-B1) in a distance of > 40 mm to equal or other plane building products”

The marking shall be done on the material, on an enclosed paper or on the packaging or, if this would be too difficult, on the delivery-note or on an enclosure to the delivery-note.

This test certificate is solely valid in combination with the original test certificate issued in German language and dated of 16.08.2019. In case of doubt, the certificate issued in German language is solely valid.

Erwitte, 16.08.2019
On behalf

Materialprüfungsamt MPA NRW 38 Nordrhein-Westfalen

Dipl.-Ing. Rademacher
Head of testing body

Dipl.-Ing. Schreiner
Engineer in charge

Date of issue of this English version: 16.08.2019

Max. flue gas-temperature = 117 °C at [min : s] 09 : 52 Smoke-development [% x min]: 3	Enclosure 1 of the test report no. 231000390 of 16.08.2019