



Testing. Advising. Assuring.

Test report No. 2018-1114

for applying of a required "Verwendbarkeitsnachweis"
issued 16.02.2018

Applicant: Gabriel A/S
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Date of order: 21.01.2018
Date of sampling: *no official sampling of the specimen by a representative of Exova Warringtonfire, Frankfurt*
Date of arrival: 24.01.2018
Date of test: 08.02.2018

Order

Testing of the flammability (building class B1) according to DIN 4102-1 (May 1998)

Description / designation of the test object

Product name: CHILI

Description of the relevant test procedure

DIN 4102 part 1 (Mai 1998)

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the "Verwendbarkeitsnachweis".



1. Description of the test material

1.1 Details of the customer:

Product name: CHILI

Product description:

Polyester FR (FR inside the fiber)

Woven fabric
Color light grey mélange
470 g/m² (+/-5%)

Intended end use of product: UPHOLSTERY FABRIC

1.2 By Exova Warringtonfire, Frankfurt determined values:

Fabric sample

Colour: light grey

Thickness: 1,11 mm

Square weight: 338 g/m²

Testing after storing 14- days under climatic conditions (23°C / 50 % rel. humidity).

2. Test results

2.1.1 Brandschachtprüfung according to DIN 4102-1

Sample A: Material tested in production direction

Sample B: Material tested crosswise to the production direction

Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			A	B	C	D
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1	1	
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	30	30		
		min : s	0:05	0:04		
3	<u>ascertainties on the front side</u> Flaming/glowing time ¹⁾	min : s	0:04	0:03		
4	<u>melting / burning through</u> time ¹⁾	min : s	0:08	0:05		
5	<u>ascertainties on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no		
6	discolouring time ¹⁾	min : s	no	no		
7	<u>burning droplets</u> begin ¹⁾	min : s	not occurred	not occurred		
8	extent					
9	occasional dropping of material constant dropping of material					
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s	no	no		
11	occasional separating parts					
12	constant separating parts					
13	duration of burning on the sieve tray (max.)	min : s	not occurred	not occurred		
14	<u>influence on the burner flame by dropping of / separating material</u> time ¹⁾	min : s	no	no		
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s	no	no		
16	time of a possible resulted test stop ¹⁾	min : s				

¹⁾ time from start of test

Test results of the Brandschacht tests part 2					
line no.		Measurements test sample			
		A	B	C	
17	<u>flaming after end of test</u> duration	min : s	--/--	--/--	
18	number of sample	min : s	--/--	--/--	
19	front side of sample	min : s	--/--	--/--	
20	backside of sample	min : s	--/--	--/--	
21	flame length	cm	--/--	--/--	
22	<u>glowing after end of test</u> duration	min . s	not occured	not occured	
23	number of sample	min . s	--/--	--/--	
24	place of occurrence	min . s	--/--	--/--	
25	lower sample part	min . s	--/--	--/--	
26	upper sample part	min . s	--/--	--/--	
27	front side of sample	min . s	--/--	--/--	
27	backside of sample	min . s	--/--	--/--	
28	<u>smoke density</u> < 400 % x min		18	4	
29	> 440 % x min		--/--	--/--	
30	diagram in annex no.		1	2	
31	<u>residual length</u> single results	cm	73 / 66 66 / 67	71 / 68 70 / 70	
32	average of the single results	cm	68	69	
33	photo of the sample on page	cm	5	5	
34	<u>smoke temperature</u> max. of the average results	°C	108	110	
35	time ¹⁾	min : s	9:43	9:41	
36	diagram in annex no.	min : s	1	2	

¹⁾ time from start of test

Remarks: Because of the residual length of > 45 cm in the test, the quantity of tests could be reduced, according to DIN 4102-16.

2.1.2 Appearance of the specimen after the test:



Sample A



Sample B

2.2.1 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit
 Flame application on: lower sample edge
 Edge ignition

Length direction

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	4	5	4	5	4
Max. flame height [mm]	30	30	20	30	30
Time [s]	3	3	2	3	3
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

Test with edge ignition without deposit
 Flame application on: lower sample edge
 Edge ignition

Cross direction

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	5	5	6	6	4
Max. flame height [mm]	30	30	30	30	30
Time [s]	3	3	3	3	3
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

2.2.2 Appearance of the sample after the small burner test:



Assessment

The material described in chapter one fulfils the requirements of the building class B2 according to DIN 4102-1 (Mai 1998).

The determined test results show that the material also fulfils the requirements

of the building class B1

according to DIN 4102-1 (Mai 1998).

Special note

The fire test result is only valid for the material described in chapter one in the tested colour and square weight.

The test was carried out in free hanging configuration.

The distance to other plane material must be more or equal then 40 mm.

The material wasn't tested after an outside storage.


In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

Frankfurt, the 16.02.2018

A handwritten signature in blue ink that reads "Anders".

H. Anders
Tester in Charge

A handwritten signature in blue ink that reads "Zachäus".

i. V.
Dipl.-Ing. T. Zachäus
Head of the business



This Test report is valid until 07.02.2023.

The results of the tests relate only to the behaviour of the test specimen which is designated on the top.

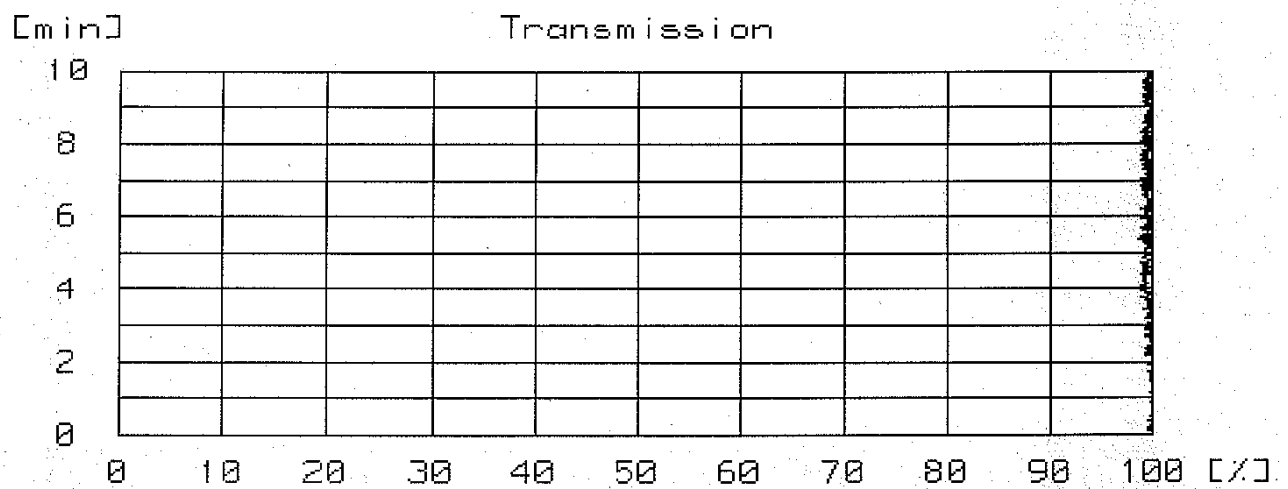
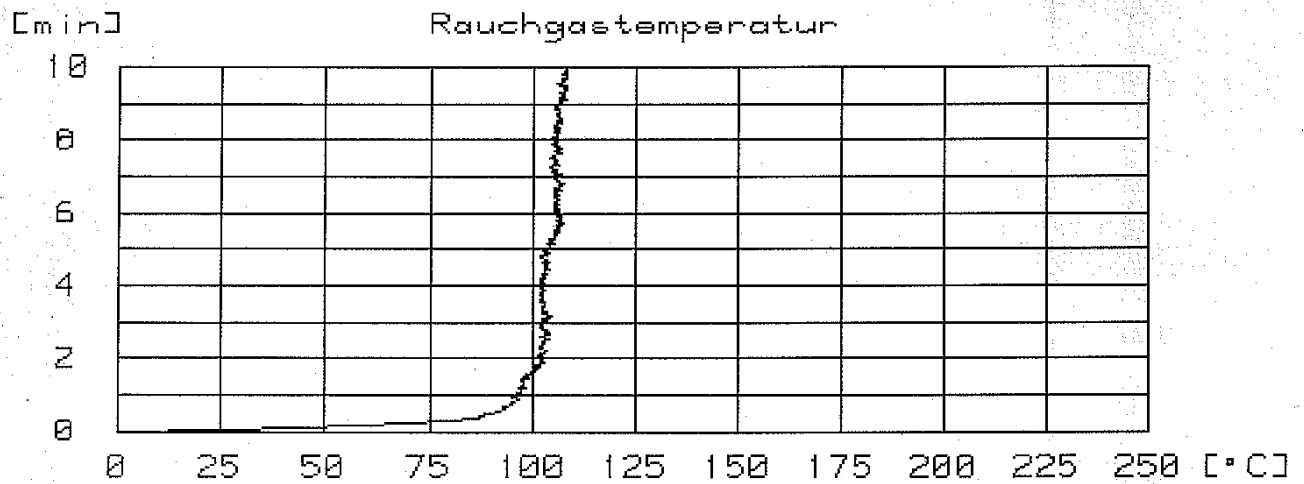
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This test report is a translation of the German version 2018-1114 (issued 16.02.2018). In case of doubt only the German version is valid

This test report contains 8 pages and 2 annexes.

Annex 1 to the Test report No. 2018-1114 issued 16.02.2018

Sample A:



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Annex 2 to the Test report No. 2018-1114 issued 16.02.2018

Sample B:

