

Testing. Advising. Assuring.

Test report No. 2011-1161

for applying of a required "Verwendbarkeitsnachweis"
issued 23.02.2011

Applicant: Gabriel A/S
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Date of order: 01.02.2011
Date of sampling: no official taking out of the sample from
a representative of the Exova Brandhaus
Date of arrival: 03.02.2011
Date of test: 18.02.2011

Order

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

Description / designation of the test object

Fabric sample designated as „Art. Gaja“

Description of the relevant test procedure

DIN 4102 part 1 (Mai 1998)

This test report did 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:

Fabric sample designated as „Art Gaja“

Construction:

Product Information: no information

1.2 At the sample preparation in the Exova Brandhaus determined values:

Fabric

Colours: black

Weight: 389 g/m²

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

2. Test results

2.1 Brandschachtprüfung according to DIN 4102-1

Sample A: fabric white tested in production direction

Sample B: fabric white tested in crosswise to the production direction

Test results of the Brandschacht tests part 1					
line no.		Measurements test sample			
			A	B	
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1	
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	60	60	
		min : s	0:20	0:19	
3	<u>ascertainties on the front side</u> Flaming/glowing time ¹⁾	min : s	0:08	0:06	
4	<u>melting / burning through</u> time ¹⁾	min : s	0:13	0:11	
5	<u>ascertainties on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no	
		min : s	no	no	
6	<u>discolouring</u> time ¹⁾	min : s	no	no	
		min : s	no	no	
7	<u>burning droplets</u> begin ¹⁾ extent	min : s	not occured	not occured	
		min : s	not occured	not occured	
8	occasional dropping of material	min : s	not occured	not occured	
		min : s	not occured	not occured	
9	constant dropping of material	min : s	not occured	not occured	
		min : s	not occured	not occured	
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s	not occured	not occured	
		min : s	not occured	not occured	
11	occasional separating parts	min : s	not occured	not occured	
		min : s	not occured	not occured	
12	constant separating parts	min : s	not occured	not occured	
		min : s	not occured	not occured	
13	duration of burning on the sieve tray (max.)	min : s	not occured	not occured	
		min : s	not occured	not occured	
14	influence on the burner flame by dropping of / separating material time ¹⁾	min : s	no	no	
		min : s	no	no	
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s	no	no	
		min : s	no	no	
16	time of a possible resulted test stop ¹⁾	min : s	no	no	
		min : s	no	no	

¹⁾ time from start of test

Test results of the Brandschacht tests part 2						
line no.		Measurements test sample				
			A	B		
17	<u>flaming after end of test</u> duration	min : s	not occure d	not occure d		
18	number of sample					
19	front side of sample	cm	--/--	--/--		
20	backside of sample		--/--	--/--		
21	flame length		--/--	--/--		
22	<u>glowing after end of test</u> duration	min . s	not occure d	not occure d		
23	number of sample					
24	place of occurrence		--/--	--/--		
25	lower sample part		--/--	--/--		
26	upper sample part		--/--	--/--		
27	front side of sample		--/--	--/--		
	backside of sample		--/--	--/--		
28	<u>smoke density</u> < 400 % x min		--/--	--/--		
29	> 440 % x min		1	9		
30	diagram in annex no.		--/--	--/--		
			1	2		
31	<u>residual length</u> single results	cm	60 / 58 54 / 58	48 / 50 58 / 50		
32	average of the single results	cm	57	51		
33	foto of the sample on page		5	5		
34	<u>smoke temperature</u> max. of the average results	°C	150	150		
35	time ¹⁾	min : s	0:25	0:24		
36	diagram in annex no.		1	2		

¹⁾ time from start of test

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



Appearance of sample A
after the "Brandschacht" test



Appearance of sample B
after the "Brandschacht" test

2.2 Normal flammability test according to DIN 4102-1

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

Colour: white

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]	3	3	5	4	5
Max. flame height [mm]	30	35	50	40	50
Time [s]	3	3	5	4	5
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression)	moderate smoke production				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

Width 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]	21	13	-	12	-
Max. flame height [mm]	130	70	100	60	130
Time [s]	20	10	22	9	21
End of afterflaming [s]	6	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression)	moderate smoke production				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

Appearance of the sample after the small burner test:



Assessment

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

The determined test results show that the material fulfils the requirements

of the building class B1

according to DIN 4102-1 (Mai 1998).

Special comment

The fire test result is only valid for the in chapter one described material, in the tested colours, in free hanging configuration.

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

Due to the experiences of the test laboratory also between lying colours are enclosed.

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 certificate did not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

Frankfurt, the 23.02.2011

A handwritten signature in blue ink, appearing to read 'Anders'.

H. Anders
Tester in charge

A handwritten signature in blue ink, appearing to read 'Zachäus'.

Dipl.-Ing. T. Zachäus
Laboratory Supervisor

This Test report is valid until 17.02.2016

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

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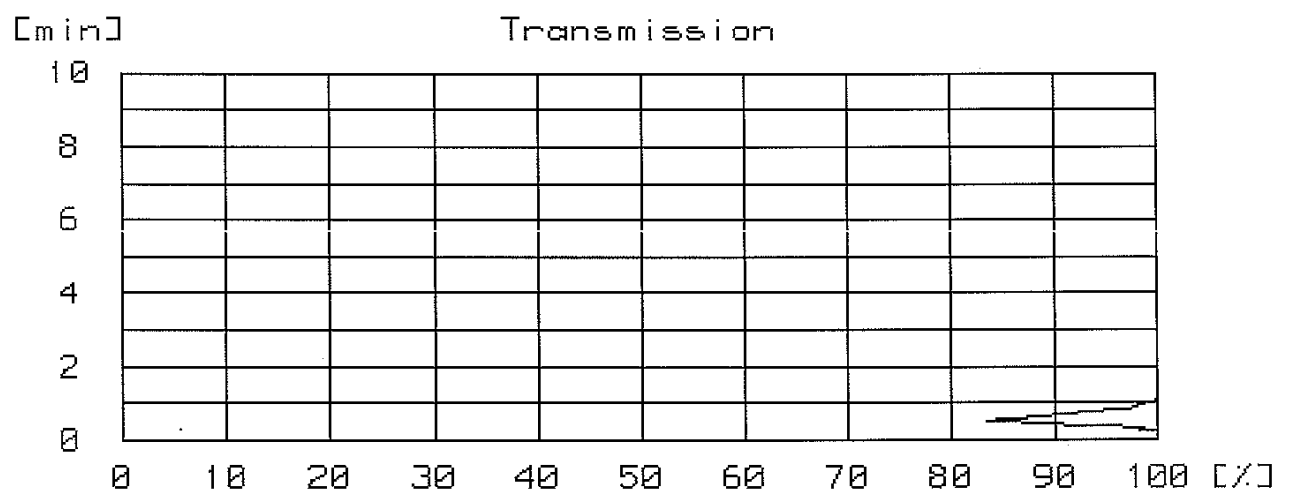
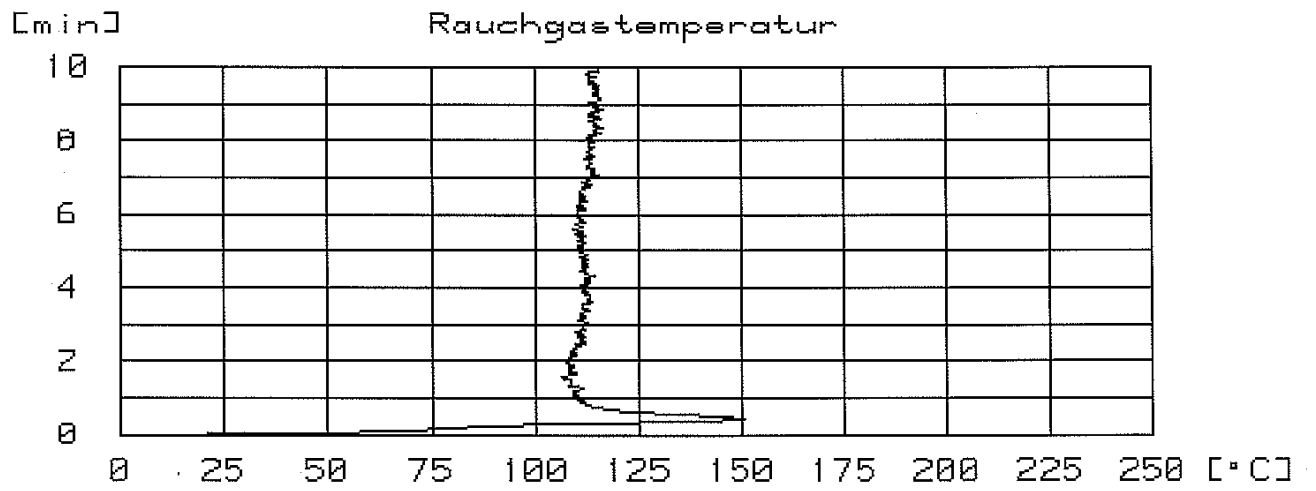
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This Test report is a translation of the German version 2011-1161 (issued 22.02.2011). In case of doubt only the German version is valid

This test report contains 8 pages and 2 annexes.

Annex 1 to the Test report No. 2011-1161 issued 23.02.2011

Sample A:



Annex 2 to the Test report No. 2011-1161 issued 23.02.2011

Sample B

