Exova Warringtonfire, Frankfurt
Industriepark Höchst, C369
Frankfurt am Main
D-65926
Germany

T : +49 (0) 69 305 3476
F : +49 (0) 69 305 17071
E : EBH@exova.com
W: www.exova.com

Testing. Advising. Assuring.

Test report No. 2016-1390

for applying of a required "Verwendbarkeitsnachweis"
issued 19.05.2016

Applicant: Gabriel A/S
Hjulmagervej 55

DK – 9100 Aalborg

Date of order: **10.03.2016 + 14.04.2016**
Date of sampling: ***no official sampling of the specimen by a representative of Exova Warringtonfire, Frankfurt***
Date of arrival: **14.03.2016 + 26.04.2016**
Date of test: **30.03.2016 + 13.05.2016**

Order

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

Description / designation of the test object

Samples material designated as: „RHYTHM"

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:

Samples material designated as: „RHYTHM”

3D fabric, 100% PES
Width: 160 cm
Weight: 330 g/m²
Thickness: 2,9 mm

Intended end use of product: Chairs, office chairs

1.2 By Exova Warringtonfire, Frankfurt determined values:

Fabric samples

Colour:	black
Thickness:	3 mm
Square weight:	337g/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	no. test arrangement according to DIN 4102 part 15, table 1		1	1		
2	flame height max. over lower sample edge	cm	30	30		
	time [1)]	min : s	0:06	0:07		
3	ascertainments on the front side Flaming/glowing time [1)]	min : s	0:06	0:05		
4	melting / burning through time [1)]	min : s	0:09	0:08		
5	ascertainments on the back side Flaming/glowing time [1)]	min : s	not occured	not occured		
6	discolouring time [1)]	min : s	no	no		
7	burning droplets begin [1)]	min : s	not occured	not occured		
8	extent occasional dropping of material					
9	constant dropping of material					
10	separating from burning sample parts 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 occured	not occured		
14	influence on the burner flame by dropping of / separating material time [1)]	min : s	no	no		
15	earlier end of test 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		
	flaming after end of test		--/--	--/--		
17	duration	min : s	--/--	--/--		
18	number of sample		--/--	--/--		
19	front side of sample		--/--	--/--		
20	backside of sample		--/--	--/--		
21	flame length	cm				
	glowing after end of test		not occured	not occured		
22	duration	min . s	--/--	--/--		
23	number of sample		--/--	--/--		
	place of occurrence		--/--	--/--		
24	lower sample part		--/--	--/--		
25	upper sample part		--/--	--/--		
26	front side of sample		--/--	--/--		
27	backside of sample					
	smoke density					
28	< 400 % x min		2	2		
29	> 440 % x min		--/--	--/--		
30	diagram in annex no.		1	2		
	residual length					
31	single results	cm	63 / 63 63 / 63	62 / 66 64 / 66		
32	average of the single results	cm	63	64		
33	photo of the sample on page		5	5		
	smoke temperature					
34	max. of the average results	°C	120	121		
35	time [1)]	min : s	9:50	9:35		
36	diagram in annex no.		1	2		

[1)] time from start of test

Remarks: Because of the residual length of > 45 cm in two tests, 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. / Time from start of test		1	2	3	4	5
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]	-	-	-	-	-
Max. flame height	[mm]	90	90	90	100	90
Time	[s]	20	18	15	19	17
After flame time	[s]	10	10	10	10	10
After glow time	[s]	-	-	-	-	-
Flames extinguished after	[s]	25	25	25	25	25
Smoke development (visual impression) low / moderate / strong		strong smoke development				
Separating from burning material		no	no	no	no	no
Time	[s]	-	-	-	-	-

Remarks: none

Cross direction

Sample-no. / Time from start of test		1	2	3	4	5
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]	-	-	-	-	-
Max. flame height	[mm]	130	110	120	130	110
Time	[s]	20	20	20	20	20
After flame time	[s]	10	10	10	10	10
After glow time	[s]	-	-	-	-	-
Flames extinguished after	[s]	25	25	25	25	25
Smoke development (visual impression)		strong 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 19.05.2016

H. Anders
Tester in Charge

P. Scheinkönig
Deputy Head of Exova Warringtonfire Frankfurt

This Test report is valid until 29.04.2021
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 2016-1390 (issued 19.05.2016). In case of doubt only the German version is valid
This test report contains 8 pages and 2 annexes.
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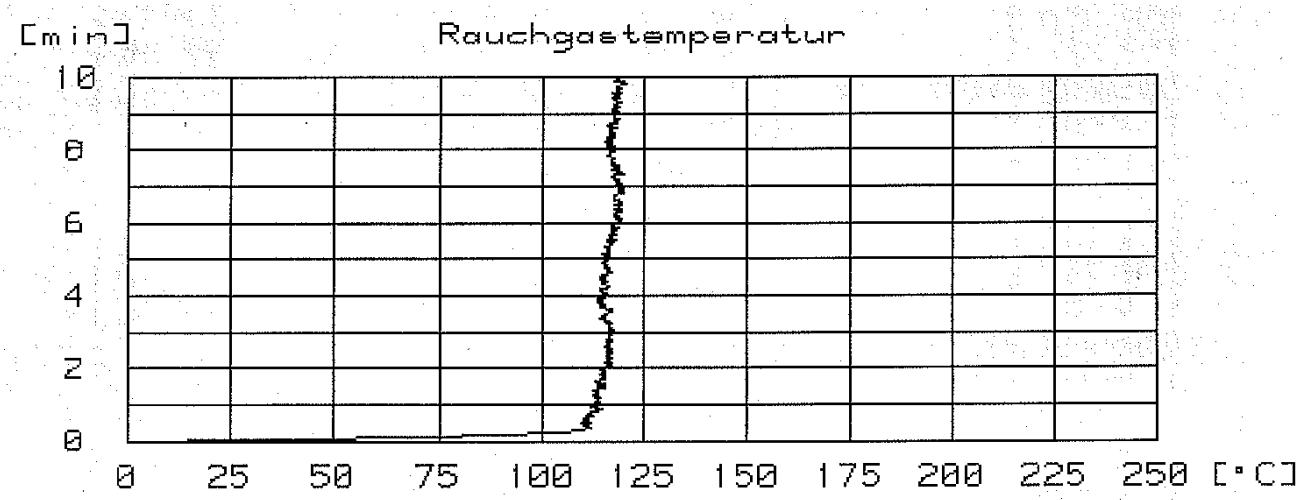
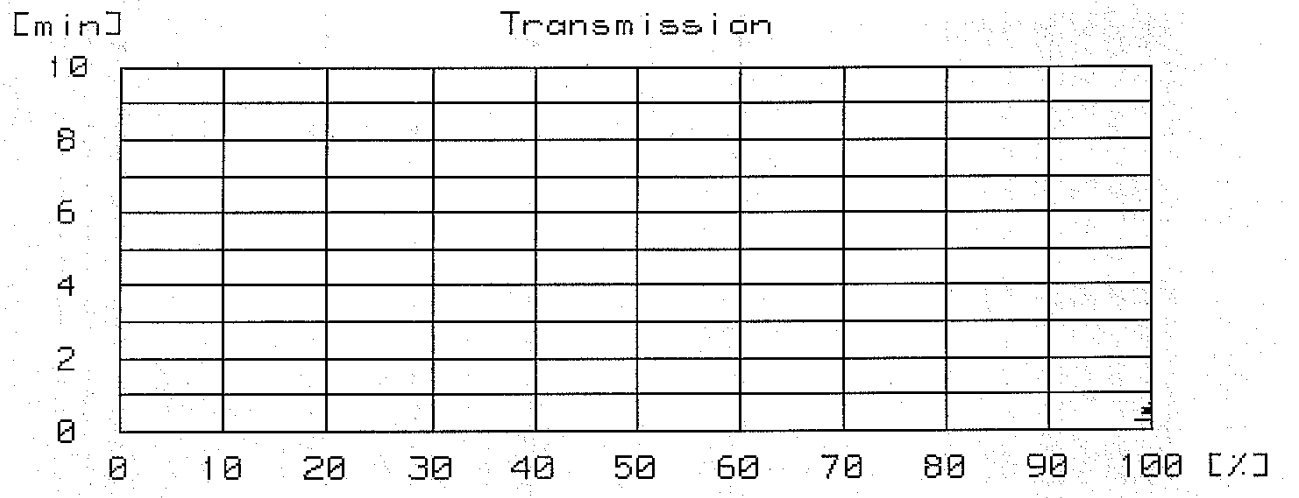
Annex 1 to the Test report No. 2016-1390 issued 19.05.2016

Sample A:





Annex 2 to the Test report No. 2016-1390 issued 19.05.2016

Sample B: