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Testing. Advising. Assuring.

Test report No. 2014-1302

for applying of a required "Verwendbarkeitsnachweis"
issued 07.04.2014

Applicant: Ludvig Svensson AB
Bangatan 8

511 82 Kinna
Sweden

Date of order: **03.03.2014**
Date of sampling: ***no official sampling of the specimen by a representative of Exova Warringtonfire, Frankfurt***
Date of arrival: **07.03.2014**
Date of test: **21.03.2014 + 28.03.2014**

Order

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

Description / designation of the test object

Name: Ohm

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:

Name: Ohm

Construction:

Material: 100% Polyester, <1% Aluminium

Intended end use of product: Vertical blinds.

1.2 At the specimen preparation by Exova Warringtonfire, Frankfurt determined values:

Fabric samples coated

Colour: silver

Thickness: 0,35 mm

Weight per unit area: 129 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	no. test arrangement according to DIN 4102 part 15, table 1					
2	flame height max. over lower sample edge	cm	30	30		
	time [1)]	min : s	0:04	0:05		
3	ascertainments on the front side Flaming/glowing time [1)]	min : s	0:04	0:03		
4	melting / burning through time [1)]	min : s	0:07	0:05		
5	ascertainments on the back side Flaming/glowing time [1)]	min : s	no	no		
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	not occured	not occured		
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	C	D
	flaming after end of test		not occured	not occured		
17	duration	min : s	--/--	--/--		
18	number of sample		--/--	--/--		
19	front side of sample		--/--	--/--		
20	backside of sample	cm	--/--	--/--		
21	flame length		--/--	--/--		
	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		10	17		
29	> 440 % x min		--/--	--/--		
30	diagram in annex no.		1	2		
	residual length					
31	single results	cm	65 / 70 62 / 65	70 / 67 67 / 67		
32	average of the single results	cm	65	67		
33	foto of the sample on page		5	5		
	smoke temperature					
34	max. of the average results	°C	114	110		
35	time [1)]	min : s	9:54	9:02		
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 flammabilty 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]	7	5	5	4	5
Max. flame height [mm]	70	50	40	40	50
Time [s]	6	4	3	3	4
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

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]	4	5	5	4	4
Max. flame height [mm]	40	40	40	40	40
Time [s]	3	3	3	3	3
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

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 comment

The fire test result is only valid for the in chapter one described material in the tested colours.
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 did not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

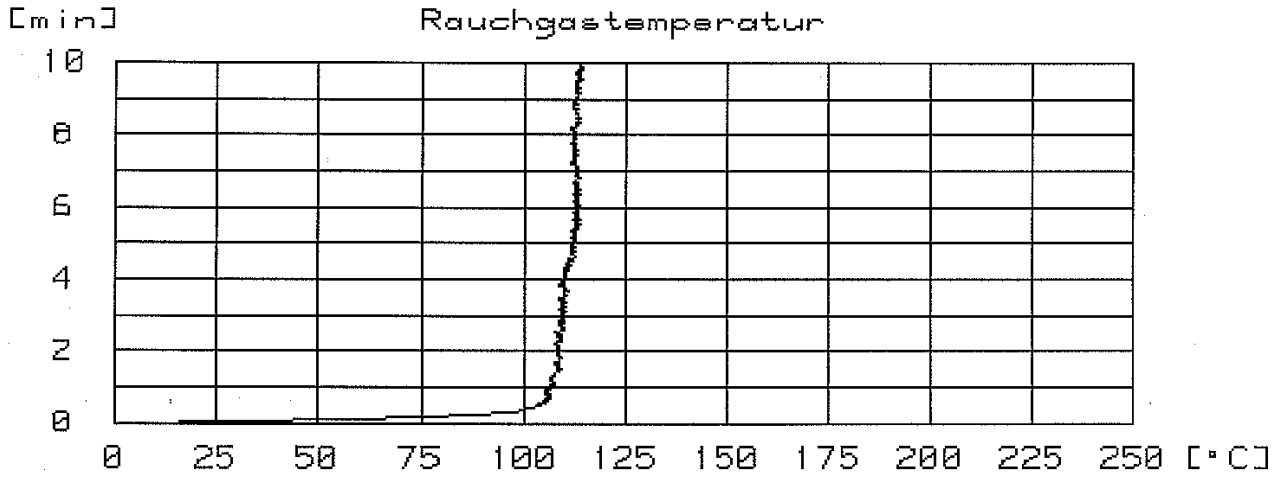
Frankfurt, the 07.04.2014

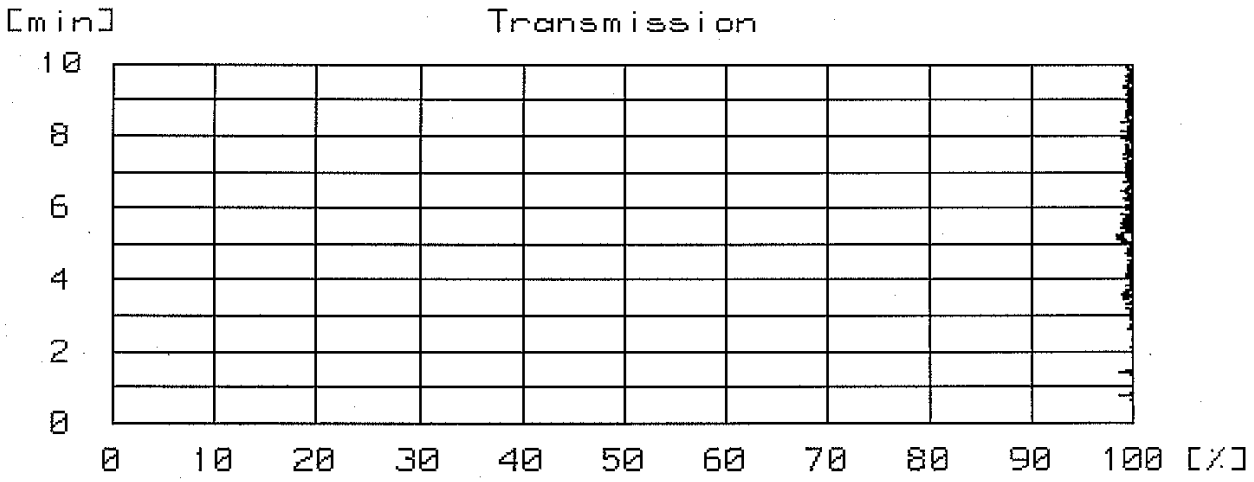
H. Anders
Tester in charge

Dipl.-Ing. T. Zachäus
Laboratory supervisor

Annex 1 to the Test report No. 2014-1302 issued 07.04.2014

Sample A:





Annex 2 to the Test report No. 2014-1302 issued 07.04.2014

Sample B: