



Testing. Advising. Assuring.

# Test report

## No. 2018-1017

for applying of a required "Verwendbarkeitsnachweis"  
issued 16.01.2018

**Applicant:** Elmo Sweden AB  
Kyrkogatan 18  
512 81 Svenljunga  
Sweden

**Date of order:**  
**Date of sampling:** *no official sampling of the specimen by a representative  
of Exova Warringtonfire, Frankfurt*  
**Date of arrival:** 18.12.2017  
04.01.2018 + 10.01.2018

### Order

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

### Description / designation of the test object

Product name: Elmosoft (7792)

### 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: Elmosoft (7792)

Product description:

Thickness: 1,1-1,3 mm

Description: Chrome free leather, dyed through with lightly pigmented finish.

Flame retardant: Flacavon FCE  
PB2522

Intended end use of product: UPHOLSTERY

### 1.2 By Exova Warringtonfire, Frankfurt determined values:

Leather

Colour: dark grey

Thickness: approx. 1,5 mm

Square weight: 685 g/m<sup>2</sup>

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 in production direction  
 Sample C: Material tested in 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 <sup>1)</sup>	cm	80	90	100	
		min : s	1:18	0:56	2:36	
3	<u>ascertainties on the front side</u> Flaming/glowing time <sup>1)</sup>	min : s	0:09	0:09	0:08	
4	<u>melting / burning through</u> time <sup>1)</sup>	min : s	0:31	0:29	0:28	
5	<u>ascertainties on the back side</u> Flaming/glowing time <sup>1)</sup> discolouring time <sup>1)</sup>	min : s	yes	yes	yes	
6		min : s	no	no	no	
7	<u>burning droplets</u> begin <sup>1)</sup> extent occasional dropping of material constant dropping of material	min : s	not occurred	not occurred	not occurred	
8						
9						
10	<u>separating from burning sample parts</u> begin <sup>1)</sup> occasional separating parts constant separating parts	min : s	no	no	no	
11						
12						
13	duration of burning on the sieve tray (max.)	min : s	not occurred	not occurred	not occurred	
14	<u>influence on the burner flame by dropping of / separating material</u> time <sup>1)</sup>	min : s	yes	yes	yes	
15	<u>earlier end of test</u> end of the fire scenario on the sample <sup>1)</sup> time of a possible resulted test stop <sup>1)</sup>	min : s	no	no	no	
16		min : s				

<sup>1)</sup> 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		--/--	--/--	--/--	
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 occured	not occured	not occured	
23	number of sample		--/--	--/--	--/--	
24	place of occurrence		--/--	--/--	--/--	
25	lower sample part		--/--	--/--	--/--	
26	upper sample part		--/--	--/--	--/--	
27	front side of sample		--/--	--/--	--/--	
27	backside of sample		--/--	--/--	--/--	
28	<u>smoke density</u> < 400 % x min		32	39	68	
29	> 440 % x min		--/--	--/--	--/--	
30	diagram in annex no.		1	2	3	
31	<u>residual length</u> single results	cm	42 / 45 30 / 36	42 / 25 32 / 36	33 / 42 15 / 10	
32	average of the single results	cm	38	33	25	
33	photo of the sample on page		5	5	5	
34	<u>smoke temperature</u> max. of the average results	°C	153	182	170	
35	time <sup>1)</sup>	min : s	1:20	0:55	0:59	
36	diagram in annex no.		1	2	3	

<sup>1)</sup> time from start of test

Remarks: none

2.1.2 Appearance of the specimen after the test:



Sample A



Sample B



Sample C

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]	19	18	18	-	-
Max. flame height [mm]	40	40	40	50	60
Time [s]	12	10	11	20	20
End of afterflaming [s]	4	3	3	>10	>10
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	25	25
Smoke development (visual impression) <sub>low / moderate / strong</sub>	moderate 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 16.01.2018

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

H. Anders  
Tester in Charge

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



This Test report is valid until 04.01.2023.

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

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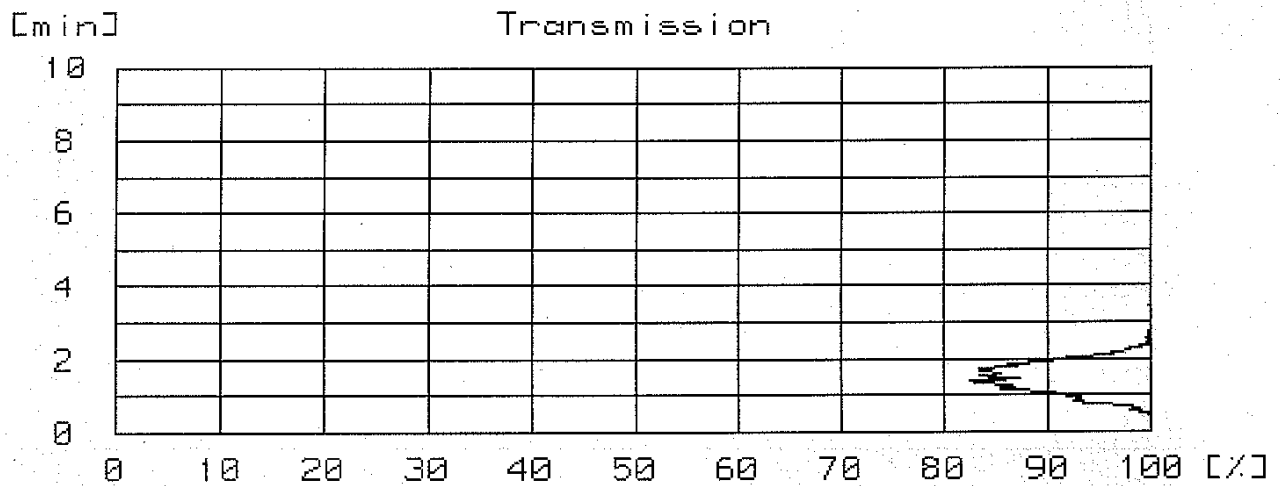
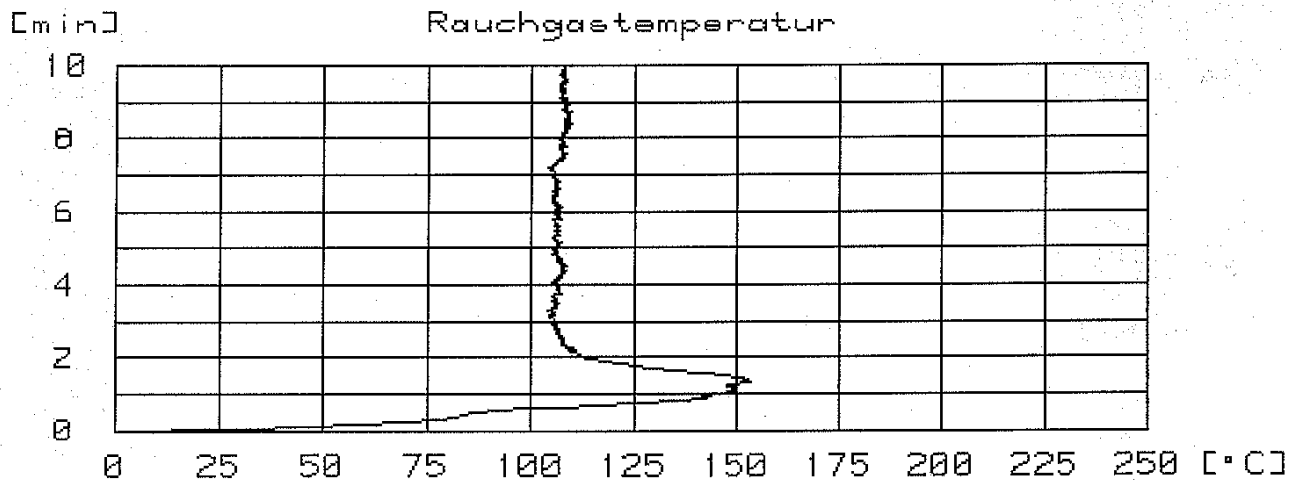
This test report is a translation of the German version 2018-1017 (issued 16.01.2018). In case of doubt only the German version is valid

This test report contains 8 pages and 3 annexes.



Annex 1 to the Test report No. 2018-1017 issued 16.01.2018

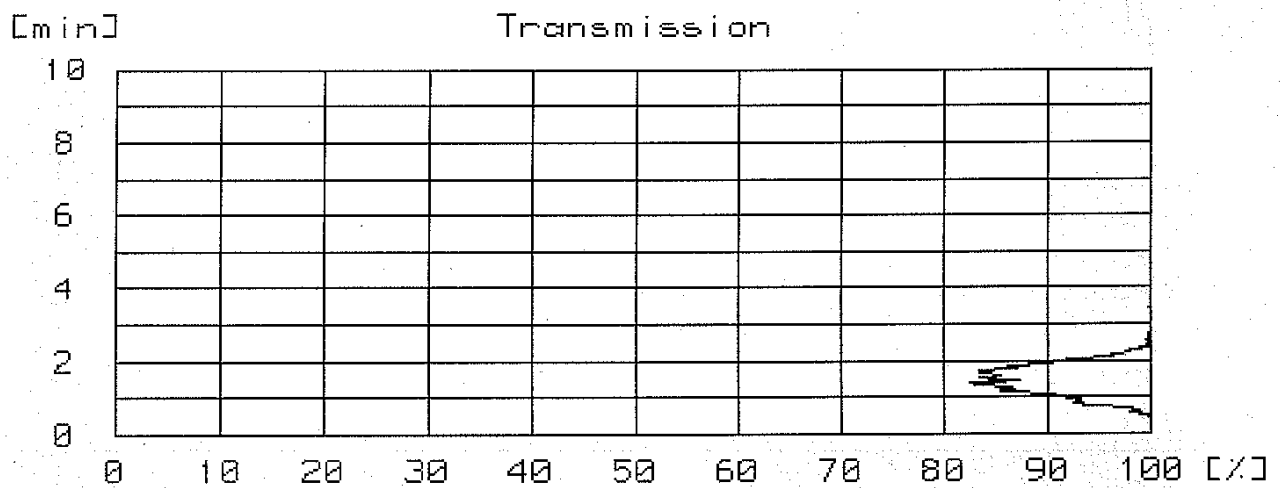
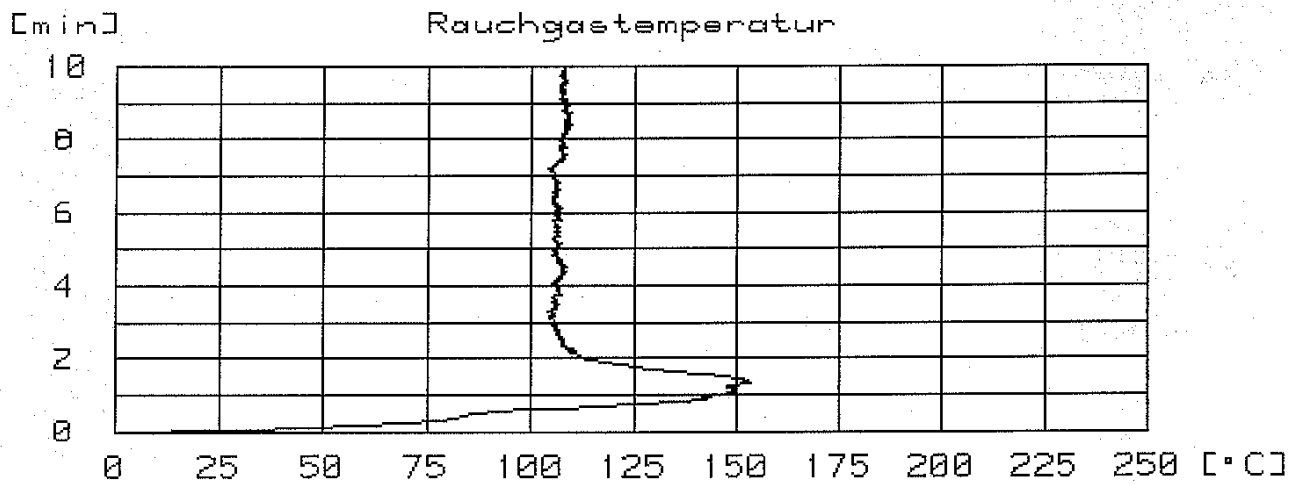
Sample A:



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Annex 2 to the Test report No. 2018-1017 issued 16.01.2018

Sample B:



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Annex 3 to the Test report No. 2018-1017 issued 16.01.2018

Sample C:

