



Test Report

No. HZSL1607058789ZT

Date: Aug 24, 2016

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WONPOONG CORPORATION
343, GONGHANG-DAERO, GANGSEO-GU, SEOUL, KOREA

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : One Sample of LED Backlit fabric in white
Style No. : LED FLEX 580 gsm

Sample Receiving Date : Jul 30, 2016
Testing Period : Jul 31, 2016 - Aug 24, 2016
Test Result(s) : Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. For further details, please refer to the following page(s).

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co. Ltd

Handwritten signature: May Chen

May Chen (Account Executive)



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**\*Test Requested:**

To determine the flammability (building materials class B1) in accordance with DIN 4102-1 (May 1998) Fire behaviour of building materials and elements Part 1: Classification of building materials, Requirements and testing

**Conclusion:** The tested sample **meets** the low flammability requirements of class B1 of building materials under DIN 4102-1 (May 1998).

**I. Test conducted**

This test was conducted as per DIN 4102-15:1990 DIN 4102-16:1998 and DIN 4102-1:1998 Clause 6.2. Classification in according to DIN 4102-1 (May 1998) Clause 6.1-Class B1 materials.

**II. Sample details**

General description	LED Backlit
Color / Density	White / About 581g/m
Size of sample	1000mmx190mm & 190mmx90mm

**Conditioning**

Prior to testing, the sample was conditioned at least 14 days to constant mass at a temperature of 23 ± 2 °C, and a relative humidity of 50 ± 6 %.



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III. Test results

1) "Brandschacht" Test according to DIN 4102-15 & 16

Exposed surface: The front face

Results of "Brandschacht" Test (part 1)				
Line No.	Unit	Test assemblies No.		
		Lengthwise	Widthwise	
1	Specimen fixings according to DIN 4102 part 15, table	/	1	1
2	Max. flame height above lower sample edge;	cm	60	60
3	Time <sup>1)</sup>	min:s	00:34	00:34
4	<u>Melting/burning through</u> Time <sup>1)</sup>	min:s	00:13	00:13
5	<u>Back of specimen</u> Flaming/glowing, Time <sup>1)</sup>	min:s	00:13	00:13
6	Discolouring, Time <sup>1)</sup>	min:s	00:12	00:12
7	<u>Burning droplets</u> Begin 1)	min:s	No /	No /
8	<u>Amount</u> Specimen material falling off in separate droplets		/	/
9	Specimen material falling off continuously		/	/



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Results of "Brandschacht" Test (part 2)			
Line No.	Unit	Test assemblies No.	
		Lengthwise	Widthwise
10	<u>Burning parts</u> Begin 1)	No /	No /
11	Parts of sample falling off separately	/	/
12	Parts of sample falling off continuously	/	/
13	Duration of continued combustion on mesh base (max.)	No	No
14	<u>Burner flame impairment by dripping/falling material</u> Time <sup>1)</sup>	No /	No /
15	<u>Premature ending of test</u> End of burning at specimen <sup>1)</sup>	/	/
16	Time when test terminated (if applicable) <sup>1)</sup>	/	/
17	<u>Burning after end of test</u> Duration	No /	No /
18	Number of specimens	/	/
19	Front of specimen	/	/
20	Back of specimen	/	/
21	Height of flame	/	/
22	<u>Glowing after end of test</u> Duration	No /	No /
23	Number of specimens	/	/
24	Front of specimen	/	/
25	Back of specimen	/	/
26	Top half of specimen	/	/
27	Bottom half of specimen	/	/



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Results of "Brandschacht" Test (part 3)					
Line No.	Unit	Test assemblies No.			
		Lengthwise		Widthwise	
28	Residual length				
	Single results	45	49	53	53
		51	54	50	52
29	Average of the single results	49.8		52	
30	Smoke temperature				
	Max. of average	146		145	
31	Time <sup>1)</sup>	08:06		07:23	

Note: <sup>1)</sup> time from start of testing

2) Normal Flammability Test according to DIN 4102-1 Clause 6.2

Flame application: [ √ ] bottom edge ignition, [ ] surface ignition

[ √ ] Lengthwise (if applicable)

Specimen No.	1	2	3	4	5
Reaching the measuring mark within 20 seconds	No	No	No	No	No
Self extinguishing of the flame (s)	15	15	15	15	15
Max. flame height (cm)	9	8	10	10	9
End of afterflaming (s)	15	15	15	15	15
End of afterglowing (s)	15	15	15	15	15
Molten dripping	No	No	No	No	No
Smoke developments (visual impression)	Slight				



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[  ] Widthwise (if applicable)

Specimen No.	1	2	3	4	5
Reaching the measuring mark within 20 seconds	No	No	No	No	No
Self extinguishing of the flame (s)	15	15	15	15	15
Max. flame height (cm)	9	8	10	10	9
End of afterflaming (s)	15	15	15	15	15
End of afterglowing (s)	15	15	15	15	15
Molten dripping	No	No	No	No	No
Smoke developments (visual impression)	Slight				

All timings are from start of testing.

Criteria for classification for Class B1 (DIN 4102-1 Clause 6.1.2)

All materials, except flooring, may be classed as B1 materials if they met,

- a) Pass DIN 4102-16 "brandschacht" test if
  - 1) The mean value for the residual length of each specimen is at least 15 cm, and no individual values are lower than 0 cm;
  - 2) The mean effluent temperature does not exceed 200°C in any test;
  - 3) The requirement for the residual length of each specimen is met even where there is afterflame, afterglow, or smouldering.
- b) Pass DIN 4102-1 Clause 6.2.3 Ignitability Test if,
  - For each specimen, flaming doesn't reach the gage mark within 20s after flame application.

STATEMENTS:

This test report does not replace any mandatory certification of the product that may be required.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire and smoke hazard of the product in use.

\*THIS TEST WAS CARRIED OUT BY SGS ANJI FLAMMABILITY LAB.

\*\*\* End of Report \*\*\*



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