

Test Report

No. AJFS1808008086FF

Date: JAN.29, 2019

Page 1 of 5

IGEPA NEDERLAND B.V.

BIEZENWEI 16 4004MB TIEL

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

Sample Description: FRONTLIT WHITE Black 450 – B1

Color: White/Black

Style/Item No.: /

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

Test Results: -- See attached sheet --

Classification: The tested sample **meets** class **B1** building materials requirements of DIN 4102-1 (May 1998).

Test Period:

Sample Receiving Date : JAN.16, 2019

Test Performing Date : JAN.16, 2019 TO JAN.29, 2019

Signed for and on behalf of
SGS-CSTC Co., Ltd. Anji Branch



Allen Zou
Technical Manager



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, and Classification in according to DIN 4102-1 (May 1998) Clause 6.1-Class B1 materials.

II. Sample details

Sample description / Color	One sample of plastic film / White/Black
Density	469 g/m ²
Size of sample	1000mm×190mm & 190mm×90mm

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 %.

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	40	40
3	Time ¹⁾	min:s	00:14	00:13
4	<u>Melting/burning through</u> Time ¹⁾	min:s	00:09	00:08
5	<u>Back of specimen</u> Flaming/glowing, Time ¹⁾	min:s	00:12	00:09
6	Discolouring, Time ¹⁾	min:s	00:03	00:04
7	<u>Burning droplets</u> Begin 1) <u>Amount</u>	min:s	No / /	No / /
8	Specimen material falling off in separate droplets		/	/
9	Specimen material falling off continuously		/	/

To be continued...



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

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
 No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
 中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编:313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Results of "Brandschacht" Test (part 3)						
Line No.	Unit	Test assemblies No.				
		Lengthwise		Widthwise		
	<u>Residual length</u>	/		/		
28	Single results	cm	58	50	56	58
			55	54	58	52
29	Average of the single results	cm	54.3		56.0	
	<u>Smoke temperature</u>	/		/		
30	Max. of average	°C	168.3		167.4	
31	Time ¹⁾	min:s	06:57		06:49	

Note: ¹⁾ time from start of testing

*Reduction in number of test (*DIN 4102 Part 16, clause 5.2*)

Class B1 materials:

If the residual length measured after the first test is 45cm or greater, further tests are not required.

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

Bottom edge ignition

Fire application time: 15s

Parameter	Lengthwise					Crosswise				
	1	2	3	4	5	6	7	8	9	10
Whether or not flaming extinguished before reach the gauge mark(Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Whether or not flaming reach the measuring mark within 20 seconds(Yes/No)	No	No	No	No	No	No	No	No	No	No
Time for the flame tip to reach the gauge mark(s)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Afterflame time (s)	0	0	5	0	3	3	4	0	0	2
Max. flame height (cm)	8	9	12	8	11	12	13	8	7	9
Molten dripping(Yes/No)	No	No	No	No	No	No	No	No	No	No
Smoke developments (visual impression)	Medium					Medium				

Note:

NA---Not applicable

To be continued...



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
 Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
 No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t. (86-572) 5018825 f. (86-572) 5018829 www.sgs.com.cn
 中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编:313300 t. (86-572) 5018825 f. (86-572) 5018829 e. sgs.china@sgs.com

IV. DIN 4102-1:1998 Criteria for classification

1) All materials, except flooring, may be classed as **B1** materials if they meet the following requirements a) and b):

a) The test using the 'Brandschacht' apparatus described in DIN 4102-15 (cf. subclause 6.1.3.1) shall be deemed passed if

– The mean value for the residual length (portion of specimen that has not burned or charred; cf. subclause 9.1 of DIN 4102-16) of each specimen is at least 15 cm and no individual values are lower than 0 cm,

– The mean effluent temperature does not exceed 200 °C in any test,

– The requirement for the residual length of each specimen is met even where there is afterflame, afterglow, or smouldering.

b) Pass DIN 4102-1: 1998 sub-clause 6.2.3 Ignitability Test if

For each specimen, flaming doesn't reach the gage mark within 20s after flame application.

2) Materials may be classed as **B2** materials if they pass the ignitability test specified in DIN 4102-1: 1998 subclause 6.2.5.

For each specimen, flaming doesn't reach the gage mark (150mm marks) within 20s after flame application.

3) Combustible materials which cannot be classed as B1 or B2 materials shall be classed as **B3** materials.

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.

Photo Appendix:



SGS authenticate the photo on original report only

*** End of Report ***



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t. (86-572) 5018825 f. (86-572) 5018829 www.sgs.com.cn
中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编:313300 t. (86-572) 5018825 f. (86-572) 5018829 e. sgs.china@sgs.com