

ZHEJIANG MSD NEW MATERIAL CO., LTD

NO.11, HONGQI ROAD, WARP KNITTING INDUSTRIAL PARK OF HAINING, ZHEJIANG, CHINA

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

Sample Description: PVC FILM

Supplier: ZHEJIANG MSD NEW MATERIAL CO., LTD

Manufacturer: ZHEJIANG MSD NEW MATERIAL CO., LTD

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 --

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

Test Period:

Sample Receiving Date : APR.18, 2013

Test Performing Date : APR.18, 2013 TO MAY.02, 2013

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

Allen Zou
Technical Supervisor

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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

Color / Density	White / 219g/m ²
Size of sample	1000 mm × 190 mm, 250 mm × 90 mm

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.			
		A	B	C	D
1	Specimen fixings according to DIN 4102 part 15, table	-	1		
2	Max. flame height above lower sample edge;	cm	60		
3	Time ¹⁾	min:s	0:05		
4	<u>Melting/burning through</u> Time ¹⁾	min:s	0:02		
5	<u>Back of specimen</u> Flaming/glowing, Time ¹⁾	min:s	0:02		
6	Discolouring, Time ¹⁾	min:s	0:01		
7	<u>Burning droplets</u> Begin ¹⁾	min:s	NO /		
8	<u>Amount</u> Specimen material falling off in separate droplets		/		
9	Specimen material falling off continuously		/		

To be continued...

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Results of "Brandschacht" Test (part 2)					
Line No.	Unit	Test assemblies No.			
		A	B	C	D
10	<u>Burning parts</u> Begin 1)	min:s	0:03		
11	Parts of sample falling off separately		✓		
12	Parts of sample falling off continuously				
13	Duration of continued combustion on mesh base (max.)	min:s	NO		
14	<u>Burner flame impairment by dripping/falling material</u> Time ¹⁾	min:s	/		
15	<u>Premature ending of test</u> End of burning at specimen ¹⁾	min:s	/		
16	Time when test terminated (if applicable) ¹⁾	min:s	/		
17	<u>Burning after end of test</u> Duration	min:s	NO		
18	Number of specimens		/		
19	Front of specimen		/		
20	Back of specimen		/		
21	Height of flame	cm	/		
22	<u>Glowing after end of test</u> Duration	min:s	NO		
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...

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Results of "Brandschacht" Test (part 3)										
Line No.	Unit	Test assemblies No.								
		A		B		C		D		
	<u>Residual length</u>									
28	Single results	cm	47	46						
			46	45						
29	Average of the single results	cm	46							
	<u>Smoke temperature</u>									
30	Max. of average	°C	163							
31	Time ¹⁾	min:s	10:00							

Note: ¹⁾ time from start of testing

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

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

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)	14	14	13	14	14
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

To be continued...

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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,

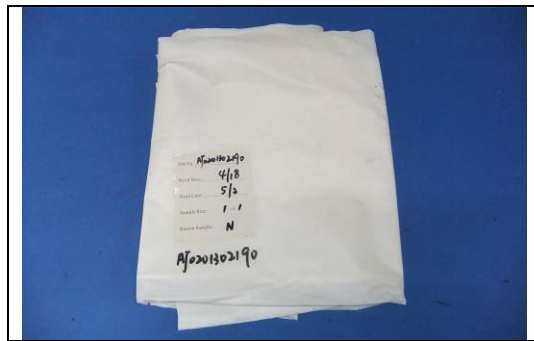
- a) Pass DIN 4102-16 "brandschacht" test if
 - 1) The mean value for the residual length of each specimen is at least 15 cm, and no individual values are lower than 0 cm;
 - 2) The mean effluent temperature does not exceed 200°C in any test;
 - 3) The requirement for the residual length of each specimen 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.

Photo Appendix:



End of Report

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