



Report No. TC.19.03.001161

Date of Issue 03/18/2019

Applicant: Qingdao Grandsea Boat Co.,LTD.

Applicant address: Room 218 #22 Xianshan Rd Chengyang District Qingdao China

Description of the test subject:

Sample	Description	Photo
001	<p>Sample Number: FRR</p> <p>Sample Description: Fire Retardant Resin FL-918 laminate with fiberglass mat/cloth</p> <p>Style No.: FL-918</p> <p>End use: To laminate pilot boat</p> <p>Manufacturer: Qingdao Grandsea Boat Co.,LTD.</p> <p>Country of origin: Qingdao, China</p> <p>Goods to be exported to: Argentina</p>	

Receipt Date of Sample: 03/08/2019

Date of Testing: From 03/08/2019 to 03/18/2019

Sample submitted: The sample(s) was (were) submitted by applicant and identified.

Conclusion:

Test Items			Conclusion
No.	Items	Standard	
1	Standard test method for rate of burning and/or extent and time of burning of plastics in a horizontal position	ASTM D 635:2014	HB

Remark: Data of the report is quoted in TC.19.03.001160.

Note: (1) General Terms & Conditions as mentioned overleaf,(2)The results relate only to the items tested,(3)The test report shall not be reproduced except in full without the written approval of the company. (4) Samples are tested as received.



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Test Results

1. ASTM D 635:2014 standard test method for rate of burning and/or extent and time of burning of plastics in a horizontal position

1.1 Sample details:

Specimen size:	125mm×13mm
Thickness:	About <u>10</u> mm

Precondition	Temperature (°C)	Humidity (%)	Duration (h)
	23±2	50±5	48

1.2 Test results:

	Whether or not the specimen continued to burn (with or without visible flame) after application of the test flame (Y/N)	Whether or not the flame front reached the 25mm mark line (Y/N)	Whether or not the flame front reached the 100mm mark line (Y/N)	t, s	L, mm	Burning rate, mm/min
1	N	N	N	--	0	--
2	N	N	N	--	0	--
3	N	N	N	--	0	--
4	N	N	N	--	0	--
5	N	N	N	--	0	--
6	N	N	N	--	0	--
7	N	N	N	--	0	--
8	N	N	N	--	0	--
9	N	N	N	--	0	--
10	N	N	N	--	0	--

Calculation:

$V = 60L/t$

Remark:

L = the burned length, in millimetres

t = the time, in seconds

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Requirement:

The behavior of specimens shall be classified HB (HB = horizontal burning) if,

- 1 There are no visible signs of combustion after the ignition source is removed, or
- 2 The flame front does not pass the 25 mm reference mark, or
- 3 The flame front passes the 25 mm reference mark but does not reach the 100 mm reference mark, or
- 4 The flame front reaches the 100 mm reference mark and the linear burning rate does not exceed 40 mm/min for specimens having a thickness between 3 and 13 mm or 75 mm/min for specimens having a thickness less than 3 mm.
5. If only one specimen from the first set of specimens does not comply with the criteria indicated, another set of specimens is to be tested. All specimens from this second set shall comply with the criteria indicated in order for the material, of that thickness, to be classified as HB.
6. If the linear burning rate does not exceed 40 mm/min when tested in the 3.0 ±0.2 mm thickness, the HB category designation shall be extended to a 1.5 mm minimum thickness.

Conclusion:

According to test results, the submitted sample **meet** the class HB specified in ASTM D 635:2014

Statement: 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 the sole criterion for assessing the potential smoke and toxicity hazard of the product in use.

Changzhou Jinbiao Railway Transportation Technical Service Co., Ltd.

Drafted by:

Lynn liu

Approved by:

Shen hui

-End of Report-

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