Test Report

No. GZMR091219751 Date: Dec 23, 2009 Page 1 of 6

PT. LATRADE BATAM INDONESIA
LATRADE INDUSTRIAL PARK BLOCK E NO.3, SEI-BINTI, TANJUNG UNCANG.BATAM -- INDONESIA

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

Product Description: GRM PROFILE

SGS Ref No.: AJD002900492, GP091102179

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required:

To determine the flame spread index (FSI) and smoke-developed index (SDI) of the sample's surface burning characteristics when it is subjected to the conditions of specified in ASTM E84:2009c "Standard Test Method for Surface Burning Characteristics of Building Materials"

Test Results: -- See attached sheet --

Test Duration:

Sample Receiving Date	:	Nov 25, 2009
Test Performing Date	:	Nov 25, 2009 TO Dec 23, 2009

Signed for and on behalf of
SGS-CSTC Ltd.

Mandy Zhao
Engineer

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I. TEST CONDUCTED

This test was conducted in accordance with ASTM E84:2009c Standard Test Method for Surface Burning Characteristics of Building Materials.

II. INTRODUCTION

The method, designated as ASTM E 84:09c, "Standard Method of Test for Surface Burning Characteristics of Building Materials", is designed to determine the relative surface burning characteristics of materials under specific test conditions. Results are expressed in terms of flame spread index (FSI) and smoke developed index (SDI).

The purpose of this test method is to determine the relative burning behavior of the material by observing the flame spread along the specimen. Flame spread and smoke developed index are reported. However, there is not necessarily a relationship between these two measurements.

III. TEST PROCEDURE

The tunnel is preheated to 150°F, as measured by the floor-embedded thermocouple located 23.25 feet downstream of the burner ports, and allowed to cool to 105°F, as measured by the floor-embedded thermocouple located 13 feet from the burners. At this time the tunnel lid is raised and the test sample is placed along the ledges of the tunnel so as to form a continuous ceiling 24 feet long, 12 inches above the floor. The lid is then lowered into place.

Upon ignition of the gas burners, the flame spread distance is observed and recorded every 15 seconds. Flame spread distance versus time is plotted ignoring any flame front recessions. If the area under the curve (A) is less than or equal to 97.5 min·ft, FSI = 0.515·A; if greater, FSI = 4900/(195-A). Smoke developed is determined by comparing the area under the obscuration curve for the test sample to that of inorganic reinforced cement board and red oak, arbitrarily established as 0 and 100, respectively.

IV. CONDITIONING

Prior to testing, the sample was conditioned,

To a constant weight at a temperature of 73.4±5°F (23±2.8°C) and at a relative humidity of 50±5%

To be continued....

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V. SAMPLE DETAILS

The details of the tested specimen given below have been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

General description	Wood Plastic Composite
Trade name / product reference	GRM profile
Composition details	PVC, Wood Flour, and other chemical
Specimen size	7200mm×585mm
Color	TEAK
Thickness	16mm
Bulk Density / Mass per unit area	0.7-0.85
Brief description of manufacturing process	From Mix chemical →Pellets→Mix pellets →hoper dryer→extruder→GRM profile
End use	For Indoor & outdoor decking, flooring, wall panel, etc

EXPOSED FACE:

One face of the specimen was exposed to the flame.

MOUNTING METHODS:

The metal rods, 6.3mm diameter as supports spanned the with of the tunnel and was placed approximately 2in.(51mm) from each end of each panel and approximately 2-ft intervals starting with the fire end of each panel.

The specimen consisted of 72 pieces of 65mm wide × 920mm long × nominal 16mm thickness and all sections jointed end-to-end.

VI. TEST RESULTS

Sample	FSI	SD
"Fire Rated Black Plastic"	45	600

To be continued....

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RATING:

The National Fire Protection Association Life Safety Code 101, Chapter 10, Section 10.2.3 "Interior Wall and Ceiling Finish Classification", has a means of classifying materials with respect to Flame Spread and Smoke Developed when tested in accordance with NFPA 255, ASTM E84, UL 723 "Method of Test of Surface Burning Characteristics of Building Materials".

International Building Code, Chapter 8, Interior Finishes, Section 803 "Wall and Ceiling Finishes", was classified in accordance with ASTM E 84 or UL 723. Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indexes.

The classifications are as follows:

	Class A	Class B	Class C
Flame Spread Index	0-25	26-75	76-200
Smoke Developed	0-450	0-450	0-450

OBSERVATIONS

Time to Ignition		14s			
Time to Max. FS		8min44s			
Maximum FS		19.5feet			
Flashing		Blistering		Cracking	
Dripping	√	Flaming Dripping	√	Floor burning	
Splitting		Warping		Melting	
Sagging		Shrinking		Afterglow	

To be continued....

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GRAPHICAL RESULTS:

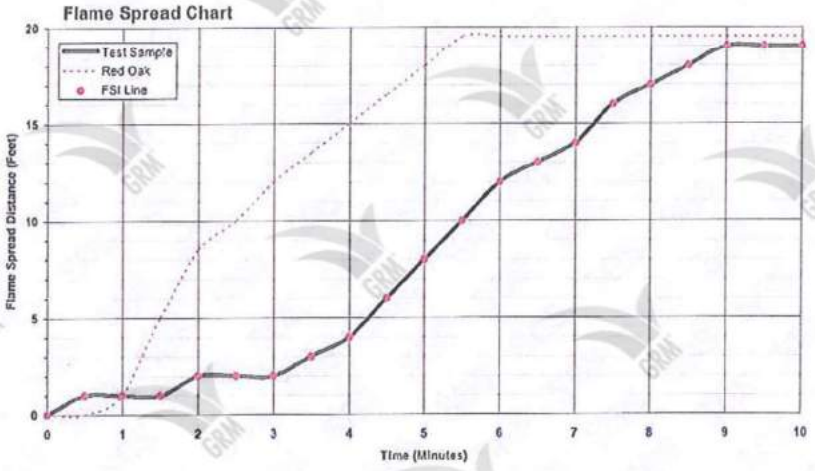

Figure 1 Flame Spread Chart

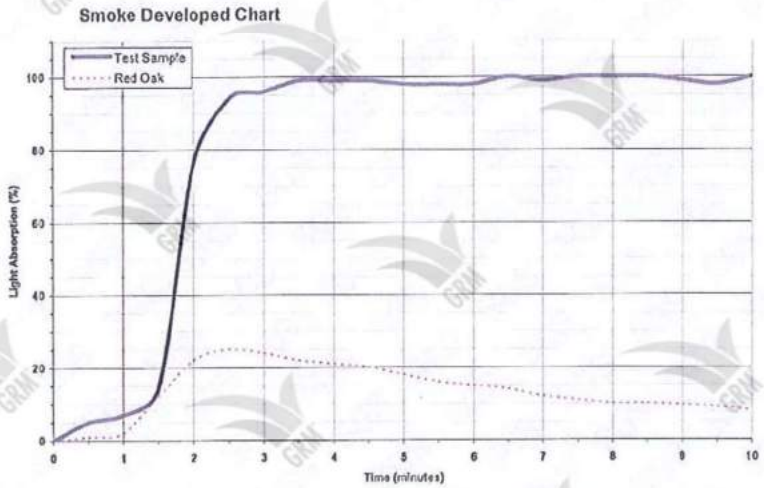

Figure 2 Smoke Developed Chart

To be continued....

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WARNING:

The use of supporting materials on the underside of the test specimen has the ability to lower the flame spread index from those which might be obtained if the specimen could be tested without such support. These test results do not necessarily relate to indices obtained by testing materials without such support.

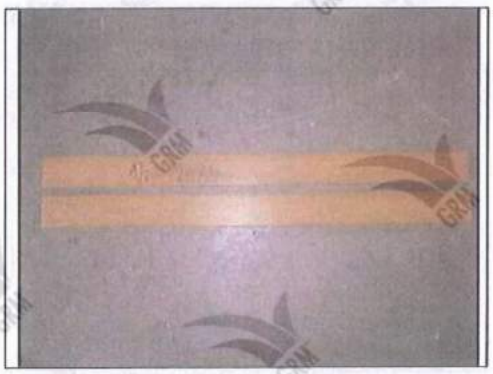
Testing of materials that melt, drip, or delaminate to such a degree that the continuity of the flame front is destroyed, results in low flame spread indices that do not relate directly to indices obtained by testing materials that remain in place.

The test results relate only to the specimens of the product in the form in which were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product, which is supplied or used, is fully represented by the specimens, which were tested.

The specimen was supplied by the sponsor and SGS-CSTC ANJI Branch was not involved in any selection or sampling procedure.

Note: The above test was conducted in SGS Anji Lab.

Photo Appendix:



End of Report

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