



Johns Manville

Johns Manville Technical Center
P.O. Box 625005
Littleton, CO 80162-5005
(303) 978-5200 FAX (303) 978-2680

Fire Testing Laboratories
Fire Test Report

Report Number : F-11-030-2

Date: April 19, 2011

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Title: Surface Burning Characteristics of Whisper Walls

PCAS No.: 01TTIAH02888

Tested by: D. Sandoval

D. Fast

Reported by:

Diane Sandoval

Fire Test Laboratory Lead

Product Testing Laboratories

Requested by: E. Williams

Distribution: E. Williams

Introduction

One acoustical panel system was submitted by E. Williams, and was tested for flame spread and smoke development in accordance with ASTM test method E84 - 10a "Standard Test Method for Surface Burning Characteristics of Building Materials." The testing of panel system samples was performed by D. Sandoval and D. Fast on April 13-15, 2011 at the Johns Manville Technical Center located at 10100 West Ute Avenue, Littleton, Colorado.

Sample Description

Test Sample #2 – Whisper Walls 1/2" System

Whisper Walls 1/2" acoustical panel system consisting of a stretching system mounted to 5/8" drywall along the perimeter of the panel including an additional stretching system member mounted longitudinally down the center of the entire sample. All areas between the stretching system has an infill of Acoustitherm fiberglass with a Whisper Walls 100% polyester fabric stretched over the entire assembly and secured by the stretching system members.



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Test Method

ASTM test method E84 - 10a "Standard Test Method for Surface Burning Characteristics of Building Materials."

ASTM E84 Section 7.0 Calibration - Select red grade oak sample was tested on February 3, 2011 and documented in Fire Test Report # F-11-011CAL.

Section 7.1 Fiber Cement Board (1/4" thick) was placed in position on the underside of the lid.

Section 7.2 Tunnel draft: 0.15 inches of H₂O

Section 7.3 Main draft: 0.055 and 0.100 inches of H₂O
Air Velocity: 240 ± 5 ft/minute

Section 7.4 Conditions of the test room are maintained at 73.4 ± 5 degrees F and 50% rH

Section 7.8 Time for flame to reach the end of the red oak specimen 19.2 ft. may not exceed .5 min ± 15 seconds. The results of the testing were a flame spread index of 91.4 and a smoke developed index of 106.5. This occurred at 5.3 minutes for this calibration which is within the 5 minute and 30 second requirement ± 15 seconds.

These values were calculated in accordance with the test method by calculating the area under the curves for both flame spread and photocell measurement systems.

Another criteria used for determining when the flame has reached the end point is when the thermocouple at 23 feet reaches 980 F. This occurred at 5.2 minutes during this calibration which is outside the specification.

***Exception to the method – Section 5.1.8.3 The exhaust system is to be insulated with at least 2 inches of high temperature mineral composite material from the exhaust end of the fire chamber to the photometer location. Due to recent checks of the duct system, 2 sections of the exhaust are not insulated at this time.**

Test Procedure

Test Specimen Mounting:

The underside of the lid was covered with ¼ inch cement board held in place with binder clips. The samples were installed in 3 - 8 foot sections butted together at the ends and mounted below the lid of the tunnel, and were self supporting.



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Specimen Testing - Using the same settings used for the red oak calibration standard, the preheat sequence was completed, the samples loaded into the tunnel and the test was run monitoring the distance that the flame front travels across the specimen.

Results

The results of these tests are given below. The test method requires that flame spread must be reported by rounding to the nearest multiple of 5. The method also requires that smoke development also be reported rounding to the nearest multiple of 5 unless the smoke development index is 200 or more, which would round smoke development to the nearest 50 points. Data from the test is shown in the results table included in this report

Results Summary:

Sample ID	Test Side	Test Support Materials	Construction Materials	Flame Spread Index	Smoke Developed Index	Rounded Values
Surface Burn Test 2	Fabric	Self supporting 2' x 8'	Whisper Walls Test Sample # 2	16.4	135	15/135



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Results Table 1:

ASTM E84 Tunnel Test			
Surface Burning Characteristics in a 25 Foot Tunnel Furnace			
Johns Manville Technical Center		Test Number:	AH02888-2
Fire Test Laboratory		Test Duration:	10.00 minutes
10100 W. Ute Ave.		Tested:	4/13/2011
Littleton, CO. 80127			11:26 AM
Material Description :			
Whisperstone Walls			
Sample #2			
Mounting Method :			
2' x6' boards			
Test Operation :			
Volume of Gas Used	58.5	cu. ft.	Operator: sandoval
Gas Burning Rate	5.8	cfm	Requestor: Williams
Max Furnace Flamespread	3.3	ft.	
Flame Spread Index	16.4		
Smoke Density Index	135.1		
Flamespread vs. Time			
Light Absorption vs. Time			
Tunnel Temperature vs. Time			



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