

ASTM E 648-03
Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

TEST REPORT

Report No: 3081587

Sample Received: July 14, 2005

Test Date: July 18, 2005

Report Date: August 3, 2005

Sample Conditioning: 69.8±5.4°F and 50±5% relative humidity

This Test Witnessed by: n/a

Sample Identification: Marked Soft Landings tile on the back of each tile.

Description

This material is a closed cell foam formulated with EVA foam and latex rubber which is placed into a hydraulic press with steel molds, the molds have a specific texture, slate, wood, brick etc. It is our intention to market this product to the swimming pool industry for a deck covering, we anticipate it will be used both indoors and out. The material stays relatively cool in the hot sun, is non-slip in fact less slippery when wet. We have been able to burn the material, but it does not flame up and give off little smoke.

Environmental Conditions: 78°F and 62% r.h.

Test Overview

This procedure provides a way of measuring *critical radiant flux* (the level of incident radiant heat energy on a floor covering system at the most distant flame-out point, reported as W/cm^2) of horizontally mounted floor-covering systems exposed to a flaming ignition source while being exposed to radiant heat energy from a panel with approximately a 30° angle from the horizontal. The radiant flux ranges from 1.05 W/cm^2 at the 100 mm mark to 0.10 W/cm^2 at the 900 mm mark.

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Summary of Test

At least three specimens shall be tested. The specimens are conditioned at $69.8 \pm 5.4^\circ\text{F}$ and a relative humidity of $50 \pm 5\%$ for a minimum of 48 hours. After the ASTM E 648 calibration procedures, the specimen is loaded into the test chamber. After a 5 minute pre-heat time, the pilot flame is placed on top of the specimen at the 0 mm mark. This pilot flame is to remain in contact with the specimen for 5 minutes, then removed. If the specimen does not propagate flame within 5 minutes following pilot burner flame application, the test is terminated. For specimens that do propagate flame, the test is continued until the flame goes out. The distance to the farthest flame-out point is noted, which is then used to determine the critical radiant flux, based on a radiant heat energy flux profile curve of the apparatus obtained during the calibration.

Environmental Conditions: 75°F and 53% r.h.

Test Results

Specimen	1	2	3
Maximum Distance (mm)	109	266	107
Time to Max. Distance (min.)	14.50	43.86	13.28
Critical Radiant Flux (W/cm^2)	1.036	0.770	1.040
Time to All Flame Out(min.)	15.03	52.60	18.65

Observations (min:sec)

Run No.	Smoking	Discolored	Blistering	Ignition	Melting
1	0:06	0:23	0:31	5:01	5:16
2	0:15	0:22	0:29	5:01	5:09
3	0:10	0:22	0:31	5:01	5:11

The average critical flux was 0.95 W/cm^2 and the standard deviation was 0.15. The coefficient of variation was 16.31.

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This report contains a total of three pages.



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August 3, 2005

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