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EVALUATION CENTER
Intertek
8431 Murphy Drive
Middleton, WI 53562

RENDERED TO

Greatmats.Com Corporation
117 Industrial Avenue
Milltown, WI 54858

PRODUCT EVALUATED: Royal Interlocking Carpet
EVALUATION PROPERTY: ASTM E648-10

Report of Testing Royal Interlocking Carpet for compliance with the applicable requirements of the following criteria: ASTM E648-10 STANDARD TEST METHOD FOR CRITICAL RADIANT FLUX OF FLOOR-COVERING SYSTEMS USING A RADIANT HEAT ENERGY SOURCE

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2 Introduction

Intertek has conducted testing for Greatmats.Com Corporation on Royal Interlocking Carpet, to measure the critical radiant flux of horizontally mounted floor-covering systems exposed to a flaming ignition source in a graded radiant heat energy environment in a test chamber. Testing was conducted in accordance with ASTM E648-10, following the Standard Test Method For Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source. This evaluation began November 10, 2010 and was completed November 10, 2010.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client. Samples were not independently selected for testing. Samples were received at the Evaluation Center on October 29, 2010.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Samples were a interlocking foam pieces topped with polypropylene carpet. Dimensions were 42.25 inches long, 24 inches wide and 0.75 inches thick.

4 Testing and Evaluation Methods

The test specimen is a resilient floor bonded to a high density inorganic sheet simulating a concrete subfloor.

Three test specimens were conditioned at $21 \pm 3^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$ with optimum air circulation for a minimum of 48 hours.

4.1. TEST STANDARD 1

The test chamber consists of an air-gas fueled radiant heat energy panel inclined at 30° to and directed at a horizontally mounted floor covering system. A radiant energy flux distribution ranging along the 100-cm length of the test specimen is generated from a nominal maximum of 1.0 W/cm^2 to a minimum of 0.1 W/cm^2 . An open-flame ignition from a pilot burner initiates the test with the distance burned to flame-out converted to watts per square centimeters from the flux profile graph and reported as crucial radiant flux, W/cm^2 .

With the radiant panel ignited for $1 \frac{1}{2}$ hours prior to testing the pilot burner is put in position and ignited. The test specimen is put in place in the test chamber, heated for 5 minutes before bringing the pilot burner flame into contact with the specimen at the 9mm mark while the burner

remained on. The pilot burner flame remained in contact with the test specimen for 5 minutes, then removed and extinguished.

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

The Royal Interlocking Carpet samples burned on average to a point that required less than 0.13 W/cm^2 of energy to keep burning. The samples burned beyond the 900 mm distance which places the 1000mm burn line beyond the last calibrated distance. Samples initially started the test by swelling at 1:20, they then preceded to have the green top material peel away and then started to smoke around 2 minutes. Ignition happened around 5:20, after the burner was put in contact. Sample burned all the way down the holder.

5.2. EXAMINATION OF RESULTS

The distances of burn were 1000mm, 1000mm and 1000mm for each preceding test. These were then averaged. The sample could only be measured to 1000mm.

6 Conclusion

This test has no pass/fail criteria. The test showed that the Royal Interlocking Carpet has a Critical Radiant Flux of less than 0.13 W/cm².

INTERTEK

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APPENDIX A

intertek

**ASTM F 848
Data Sheet**

Client: Great Mats. Com Corp. Project No. 100 25 3719 Date 11/10/10
 Temperature (°F): 70 %RH: 50
 Specimen I. D. (including thickness): 42.2X 24 X .75 M

Calibrator: Blackbody Temp: 570 mV Chamber Temperature: 272.0 (°F)
 Check: Flame Height: 272.0 Gas Flow Rate: 52.5
2.5 in

Flame Front Advance	1	2	3
Time to Maximum Distance	20:05	20:00	24:03
All Flame Out	20:05	20:00	24:03
Maximum Distance, mm	100+	100+	100+
Critical Radiant Flux, kW/m ²	6.13	20.23	6.13

Observations (minutes)	1	2	3
Smoking	2:10	2:25	2:00
Discoloration			
Blistering			
Melting	2:40	1:35	1:23
Swelling	1:20		2:00
Delaminating	1:20	1:23	1:30
Bubbling			
Ignitor	5:30	5:06	5:50

Other: Drifts thought to slow drying flame
Sample burned to post 1000 min

Signed UA Date 11/10/10 Approved Me Date 11/10/10



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REVISION SUMMARY

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November 11, 2010	Original Report
