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### ASTM E 648 Critical Radiant Flux of "3100 Series"

A Report To: **Jessup Manufacturing Company**  
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Attention: Jasmina Kecinska

Submitted By: Exova Warringtonfire North America

Report No. 14-002-049(A1)  
2 pages + appendix

Date: February 27, 2014

**ACCREDITATION** To ISO/IEC 17025 for a defined Scope of Testing by the International Accreditation Service

### **SPECIFICATIONS OF ORDER**

Determine critical radiant flux in accordance with ASTM E 648, as per Jessup Manufacturing Co. Purchase Order No. PO11127 and Exova Warringtonfire North America Quotation No. 14-002-275,881 RV1 accepted January 20, 2014.

**IDENTIFICATION** (Exova sample identification number 14-002-S0049-1)

Anti-slip tape, identified as "3100 Series".

### **SAMPLE PREPARATION**

Prior to testing, the anti-slip tape was adhered onto 6 mm thick fiberglass reinforced cement substrate.

### **TEST RESULTS**

#### **ASTM E 648-10e1**

Critical Radiant Flux of Floor-Covering Systems  
Using a Radiant Heat Energy Source

<u>Test</u>	<u>Distance Burned (mm)</u>	<u>Critical Radiant Flux (W/cm<sup>2</sup>)</u>	<u>Standard Deviation</u>	<u>Coefficient of Variation</u>
1:	100	1.06	-	-
2:	100	1.06	-	-
3:	110	<u>1.05</u>	-	-
Average:		1.06	0.006	0.55

### **CONCLUSIONS**

With an average critical radiant flux of 1.06 W/cm<sup>2</sup>, the flooring material identified in this report qualifies for use in commercial and institutional applications, as governed by the General Services Administration and Health, Education and Welfare in the United States as well as corridors, exitways and general areas, as governed by the New York and New Jersey Port Authority. The flooring also meets the Federal Railroad Administration requirements for rail cars.

**Note:** This is an electronic copy of the report. Signatures are on file with the original report.

Marc Laniel,  
Technician.

Ian Smith,  
Technical Manager.

*Note: This report and service are covered under Exova Canada Inc. Standard Terms and Conditions of Contract which may be found on the Exova website (www.exova.com), or by calling 1-866-263-9268.*

**APPENDIX**

(1 Page)

**Summary of Test Procedure**

**ASTM E 648-10e1**  
**Critical Radiant Flux of Floor Covering Systems**  
Using a Radiant Heat Energy Source.

This procedure is used 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.

The radiant panel is calibrated to yield a heat flux gradient ranging from 1.1 W/cm<sup>2</sup> at the near end of the specimen to 0.1 W/cm<sup>2</sup> at the far end of the specimen.

The floor covering system (250 x 1070 mm) is mounted on the holder as specified by its end use (e.g. glued directly to cement board, clamped to cement board or clamped over an undercushion).

The system is admitted into the calibrated test chamber, and after a 5 minute pre-heat, is ignited by a pilot flame. The distance at which extinguishment takes place is measured, correlated with the heat flux at that point, and is reported as the critical radiant flux (CRF). This value represents the minimum radiant energy required to sustain propagation of flaming combustion along the surface of the material.

The higher the critical radiant flux, the more resistant the floor covering system is to flame propagation.

Typical Performance Requirements:

<u>Specifier</u>	<u>Minimum CRF (W/cm<sup>2</sup>)</u>	<u>Designated End-Use</u>
General Services	0.45	Institutional
Admin.(USA)	0.22	Commercial
Health, Education	0.45	Institutional
& Welfare (USA)	0.22	Commercial
New York & New Jersey	0.50	Corridors, exitways
Port Authority	0.40	General areas
Federal Railroad Administration	0.50	Rail Cars

Many authorities having jurisdiction refer to the following categories:

Class I - 0.45 W/cm<sup>2</sup> or greater

Class II - 0.22 W/cm<sup>2</sup> to 0.44 W/cm<sup>2</sup>