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Lower Draught Gates Farm
Burnley Road, Trawden
Lancashire, BB8 8PW

bonding people fixing problems

Fire Performance – Anti-Slip 3200 series

Innova Solutions 3200 series anti-slip has been tested for performance in fire in accordance with:

1. ASTM E 648 Critical Radiant Flux, and
2. ASTME E 662 Rate of Smoke Generation.

The results are as follows:

1. **TEST RESULTS ASTM E 648-10e1**

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

Sample size: 1070mm x 250mm mounted to 6mm thick fiberglass re-enforced cement

Test	Distance burned (mm)	Critical Radiant flux (W/cm2	Standard Deviation	Coefficient of Variation
1	20	>1.1	-	-
2	25	>1.1	-	-
3	25	>1.1	-	-
Average		>1.1	-	-

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 under-cushion).

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.

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Typical Performance Requirements:

Specifier	Minimum CRF (W /cm²)	Designated End-Use
General Services	0.45	Institutional
Admin.(USA)	0.22	Commercial
Health & Education	0.45	Institutional
Welfare	0.22	Commercial
New York & New Jersey Port	0.50	Corridors, exit ways
	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/cm² or greater Class II - 0.22 W/cm² to 0.44 W/cm²

CONCLUSIONS

With an average critical radiant flux of >1.1 W/cm², 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, exit ways and general areas, as governed by the New York and New Jersey Port Authority.

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2. **TEST RESULTS** **ASTM E 662 -13d**

This method of test covers a procedure for measuring the smoke generated by solid materials and assemblies in thickness up to and including 1 inch (25.4 mm). Measurement is made of the attenuation of a light beam by smoke (suspended solid or liquid particles) accumulating within a closed chamber due to non-flaming pyrolytic decomposition and flaming combustion. Results are expressed in terms of specific optical density (Ds), which is derived from a geometrical factor and the measured optical density (absorbance).

Sample size: Three samples of 3" x 3" mounted to 6mm thick fiberglass re-enforced cement

Relative Room Humidity: 20%	**Test Duration: 20mins**			**Chamber Wall Temp: 35C**		
Flaming Mode	**Test**	**#1**	**#2**	**#3**	**Average**	**Specified MAX**
Specific Optical Density at 1.5 minutes		3	20	11	11	100
Specific Optical Density at 4.0 minutes		49	69	63	60	200
Maximum Specific Optical Density		151	163	153	156	-
Maximum Corrected Optical Density		147	163	153	154	-

CONCLUSIONS

Parameters normally reported are:

Ds 1.5 - specific optical density after 1.5 minutes

Ds 4.0 - specific optical density after 4.0 minutes

Dm -maximum specific optical density at any time during the 20 minute test

Dm (corr) - Dm corrected for incidental deposits on the optical surfaces

For floor covering, the Federal Railroad Administration specifies a maximum Ds 1.5 of 100 and a maximum Ds 4.0 of 200 in either flaming or non-flaming test mode.

The anti-slip tape identified in this report conforms to FDR requirements Ds1.5 = 100max and Ds 4.0= 200 Max.