Professional Testing Laboratory, Inc.

# TEST REPORT

**DATE: 09/18/2007** **TEST NUMBER**: 109915

| | |
|---|---|
| **CLIENT** | Patcraft/Division of Shaw Industries |

| | |
|---|---|
| **TEST METHOD CONDUCTED** | AATCC 134-06 (Step Method) Electrostatic Propensity of Carpets |

| | **DESCRIPTION OF TEST SAMPLE** |
|---|---|
| **IDENTIFICATION** | I0203 Color Choice |
| **COLOR** | 00804 Mahogany |
| **ROLL** | 079118W |
| **CONSTRUCTION** | Loop Pile |
| **FIBER** | 100% Eco Solution Q SD Nylon |
| **BACKING** | UltraLoc Pattern |
| **REFERENCE** | |

**GENERAL PRINCIPLE**

This method is designed to assess the static propensity of flooring material by controlled laboratory simulation of conditions which are known from experience to be strongly contributory to excessive accumulation of static charges.

A flooring material preconditioned to equilibrium at controlled atmospheric conditions is walked on by a test subject in a specified manner with specified shoe soles. The static charges which build up on the tester are monitored continuously by a recorder.

A neolite shoe sole has been chosen as the primary reference material because its static performance is much like that of many common leathers. It is a commonly used shoe sole material and can be easily cleaned, while its chemical and physical properties are quite uniform.

A chrome tanned leather shoe sole has been chosen for a secondary reference material because it is representative of a certain class of leathers whose performance differs significantly from that of neolite soles on certain carpet fiber. Statistically, chrome tanned leather comprises a very small percentage of the shoe sole market, but must be considered in critical applications.

| | **TEST CONDITIONS** |
|---|---|
| **TEST CONDITIONS** | The sample is conditioned to equilibrium and tested at 70 º ± 2º F and 20 ± 2% relative humidity |
| **SAMPLE PREPARATION** | Shampooed three times according to GSA specifications |
| **SUBSTRATE** | 40 Ounce Rubberized Jute/ Hair Pad |

| | **DAY 1** | **DAY 2** | **AVERAGE** |
|---|---|---|---|
| **TEST I: Step Test/Neolite Sole** | **-1.8 KV** | **-1.7 KV** | **-1.8 KV** |
| **TEST III: Step Test/Leather Sole** | **+2.0 KV** | **+1.8 KV** | **+1.9 KV** |
| **MAXIMUM AVERAGE VOLTAGE** | | **POS 1.9 KV** | |

***"The results of this test relate to the sample of flooring material tested. Its static performance may be altered in service as a result of wear, soiling, cleaning, temperature, relative humidity, etc…"***

**APPROVED BY:** Gary Asbury

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| **CLIENT** | Patcraft/Division of Shaw Industries |

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|---|---|
| **TEST METHOD CONDUCTED** | ASTM E662-03 Smoke Density (Flaming) Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials also referenced as NFPA 258 |

| **DESCRIPTION OF TEST SAMPLE** | |
|---|---|
| **IDENTIFICATION** | I0203 Color Choice |
| **COLOR** | 00804 Mahogany |
| **ROLL** | 079118W |
| **CONSTRUCTION** | Loop Pile |
| **FIBER** | 100% Eco Solution Q SD Nylon |
| **BACKING** | UltraLoc Pattern |
| **REFERENCE** | |

**GENERAL PRINCIPLE**

This procedure is designed to measure the specific optical density of smoke generated by the test specimen within a closed chamber. Each specimen is exposed to an electrically heated radiant-energy source positioned to provide a constant irradiance level of 2.5 watts/square cm on the specimen surface. Measurements are recorded through a photometric system employing a vertical beam of light and a photo detector positioned to detect the attenuation of light transmittance caused by smoke accumulation within the chamber. The light transmittance measurements are used to calculate specific optical density, a quantitative value which can be factored to estimate the smoke potential of materials. Two burning conditions can be simulated by the test apparatus. The radiant heating in the absence of ignition is referred to as the Non-Flaming Mode. A flaming combustion in the presence of supporting radiation constitutes the Flaming Mode.

| **CONDITIONS** | | | |
|---|---|---|---|
| **PREDRYING OF TEST SAMPLE** | 24 Hours at 140º F | | |
| **CONDITIONING OF TEST SAMPLE** | 24 Hours at 70º F and 50% Relative Humidity | | |
| **FURNACE VOLTAGE** | 107 V | **IRRADIANCE** | 2.5 watts/sq cm |
| **CHAMBER TEMPERATURE** | 95º F | **CHAMBER PRESSURE** | 3" $H_2O$ |
| **TEST MODE** | Flaming | | |

| | | | |
|---|---|---|---|
| **AVERAGE MAXIMUM DENSITY CORRECTED (Dmc)** | | **FLAMING** | 186 |
| **AVERAGE SPECIFIC OPTICAL DENSITY AT 4.0 MINUTES** | | | 198 |
| | **Specimen 1** | **Specimen 2** | **Specimen 3** |
| **Maximum Density (Dm)** | 211.0 | 192.0 | 209.0 |
| **Time to Dm (minutes)** | 3.0 | 4.5 | 3.0 |
| **Clear Beam (Dc)** | 18.0 | 18.0 | 18.0 |
| **Corr. Max Density (Dmc)** | 193.0 | 174.0 | 191.0 |
| **Density at 1.5 minutes** | 46.0 | 25.0 | 34.0 |
| **Density at 4.0 minutes** | 202.0 | 190.0 | 203.0 |
| **Time to 90% Dm (minutes)** | 2.5 | 2.5 | 2.5 |
| **Specimen Weight (grams)** | 13.2 | 13.0 | 13.1 |

**** This sample PASSES the requirements of 450 or less as listed in NFPA Life Safety Code 101.***

**APPROVED BY:** Gary Asbury

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| **CLIENT** | Patcraft/Division of Shaw Industries |

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|---|---|
| **TEST METHOD CONDUCTED** | ASTM E648-03 Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using A Radiant Heat Energy Source, also referenced as NFPA 253 and FTM Standard 372 |

| | **DESCRIPTION OF TEST SAMPLE** |
|---|---|
| **IDENTIFICATION** | I0203 Color Choice |
| **COLOR** | 00804 Mahogany |
| **ROLL** | 079118W |
| **CONSTRUCTION** | Loop Pile |
| **FIBER** | 100% Eco Solution Q SD Nylon |
| **BACKING** | UltraLoc Pattern |
| **REFERENCE** | |

**GENERAL PRINCIPLE**

This procedure is designed to measure the critical radiant flux at flame out of horizontally mounted floor covering systems exposed to a flaming ignition in a test chamber which provides a graded radiant heat energy environment. The imposed radiant flux simulates the thermal radiation levels likely to impinge on the floors of a building whose upper surfaces are heated by flames from a fully developed fire in an adjacent room or compartment. The test result is an average critical radiant flux (watts/square cm) which indicates the level of radiant heat energy required to sustain flame propagation in the flooring system once it has been ignited. A minimum of three test specimens are tested and the results are averaged. Theoretically, if a room fire does not impose a radiant flux that exceeds this critical level on a corridor floor covering system, flame spread will not occur.

The NFPA Life Safety Code 101 specifies as Class 1 Critical Radiant Flux of .45 watts/sq cm or higher and Class 2 Critical Radiant Flux as .22 - .44 watts/sq cm.

| **FLOORING SYSTEM ASSEMBLY** | | | |
|---|---|---|---|
| **SUBSTRATE** | Mineral-Fiber/Cement Board | **UNDERLAYMENT** | Direct Glue Down |
| **ADHESIVE** | Subset 1000 | **CONDITIONING** | Minimum of 96 hours at 70 ± 5º F and 50 ± 5% relative humidity |

This test report relates to the installation in accordance with the criteria set forth in the report. Any variation in the installation criteria may produce different results.

| | Distance Burned | Time To Flame Out | Critical Radiant Flux |
|---|---|---|---|
| **Specimen 1** | 20 cm | 28 minutes | 0.89 watts/square cm |
| **Specimen 2** | 17 cm | 19 minutes | 0.94 watts/square cm |
| **Specimen 3** | 27 cm | 17 minutes | 0.75 watts/square cm |

| | |
|---|---|
| **Average Critical Radiant Flux** | 0.86 Watts/Square Cm |
| **Standard Deviation** | 0.10 Watts/Square Cm |
| **Coefficient of Variation** | 11.45 % |

**** NOTE: Meets or exceeds Class 1 rating as specified in NFPA Life Safety Code 101 and IBC 804.2 Classification.***

**APPROVED BY:** Gary Asbury

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