



TOUGH Beautiful

PRECIDIUM™ Rail Flooring System

Quality you can stand on. Quality we stand behind.

Design Engineered
Safety Oriented
Providing Solutions



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PRECIDIUM™ is a revolutionary new flooring product that provides an attractive, durable, resilient, seamless floor surface. PRECIDIUM™ floor systems are used in a wide range of industrial and commercial applications including, but not limited to, passenger rail cars, buses and other transit vehicles, as well as stations and other floor areas. The following information in this brochure pertains to the PRECIDIUM™ Rail Flooring System designed specifically for transit rail cars.

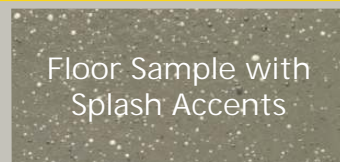
PRECIDIUM™ Rail Flooring System is a patent pending flooring system engineered to provide significant cost-saving benefits to rail car manufacturers and transit authorities. It is a spray-applied polymer that cures rapidly to form a seamless, durable floor finish and as a spray-in-place floor system provides some notable advantages. Plus, PRECIDIUM™ Rail Flooring System is the only spray-in-place floor system that exceeds all federal fire safety standards for use in mass transit applications.



Midnight Black	Deep Sea Blue	Deep Forest Green
Charcoal Grey	Dusky Grey	Silver Grey
Dark Chocolate	Brick Red	Terracotta Red
Candy Apple Red	Mellow Mustard	Aqua Blue
Seashell Beige	Desert Tan	Safety Yellow

Custom Colors

PRECIDIUM™ Rail Flooring System is available in a range of standard colors* used as base colors and/or optional splash accent colors for any design finish requested. The beauty of this floor system is that virtually any medium to dark base color is possible with any custom splash accent desired, and transit logos or personalized signs can be imbedded in the floor for a truly customized finish.



Safety Markings

Photo-luminescent directional and safety markings, guided walkways to ensure optimum traffic flow; borders or outlines; as well as bright yellow stair nosings are available. All safety markings are integral and seamless for permanence and ease of maintenance.

*Actual floor samples could vary slightly in color from the printed samples above.

Notable Features

Ultra Light

PRECIDIUM™ Rail Flooring System offers the lightest weight floor membrane available, thus reducing fuel consumption and increasing payload capacity.

Rapid Installation

A two-person crew can install a PRECIDIUM™ Rail Flooring System in as little as one hour on new transit vehicles. Retrofit or refurbished rolling stock can be back in service in as little as 24 hours.

Complete Protection

PRECIDIUM™ Rail Flooring System forms a seamless membrane that is impervious to water. Pressure washing of transit cars is possible without concern for water infiltration at seams, thus significantly improving the life span of floor panels.

Longevity

PRECIDIUM™ Rail Flooring System has excellent resistance to stains and abrasion. Damage can be easily repaired. After years of service the PRECIDIUM™ floor can be refurbished to like-new without replacement of the entire floor.

Regulatory Compliant

PRECIDIUM™ Rail Flooring System is extremely flame resistant. In standard tests for flammability, smoke development and smoke toxicity, the PRECIDIUM™ Rail Flooring System exceeds all federal safety regulations.

Zero VOC

PRECIDIUM™ Rail Flooring System does not contain any solvents or Volatile Organic Compounds (VOC's). Spray application can be accomplished without affecting plant emission status.



PRECIDIUM™ Rail Flooring System Safety Stats

PRECIDIUM™ Rail Flooring System has been manufactured to meet the following test requirements for fire, smoke, toxicity, and friction.

Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using Radiant Heat Energy Source. Method: ASTM E-648
Requirement: Critical Radial Flux of more than or equal to 0.50 watts/sq. cm. PRECIDIUM™ is greater than 1 watts/sq. cm.



Standard Method of Test for Surface Flammability of Materials Using a Radiant Heat Energy Source. Method: ASTM E-162.
Requirement: Class A (I) 0-25 Flame Spread. PRECIDIUM™ average Flame Spread is 22.60.



Standard Test Method for Surface Burning Characteristics of Materials. Method: ASTM E84-05.
Requirement: Class A (I) 0-25 Flame Spread. FSR for PRECIDIUM™ is 20. SDR is 115.

Standard Method for Specific Optical Density of Smoke Generated by Solid Materials. Method: ASTM E-662 Requirements in the flaming and non-flaming modes:

- Ds @ 1.5 minutes - maximum: 100
- DS @ 4.0 minutes - maximum: 200
- Dm @ 15.0 minutes - maximum: 300
- Dm @ 20.0 minutes - maximum: 300

Cone Calorimeter. Three tests required at 25, 50, and 75 kW/sq meter using horizontal sample position. Method: ASTM E-1354. Requirements:

- Maximum heat release rate: < 150 kW/sq meter
- Av. heat release rate at 3 minutes: < 100 kW/sq meter
- Av. heat release ignition to flameout: < 50 kW/sq meter

Toxicity. Methods: Bombardier Test Method SMP800 or Boeing Test Method BSS-7238 "Test Method for Smoke Generation by Materials in Combustion"
Requirements: Generation of toxic gasses identified below do not exceed the indicated concentration in either the flaming or non-flaming modes. Carbon Monoxide (CO): 3500 ppm; Nitrogen Oxides (NO₂): 100 ppm; Sulphur Dioxide (SO₂): 100 ppm; Hydrogen Chloride (HCL): 500 ppm; Hydrogen Fluoride (HF): 200 ppm; Hydrogen Cyanide (HCN): 150 ppm.

Slip Resistance. Method: ASTM C-1028. Requirement: Coefficient of friction for both wet and dry conditions shall be 0.6 or greater.

Adhesion, Bonding. Bonding strength of the spray coating to the fiberglass and steel substrate of the floor. Method: ASTM D-4541. Requirement: Pull-off strength, using a 20mm (0.79 inches) diameter plug, shall be 500 psi or greater.

PHYSICAL PROPERTIES

The finished spray flooring material with a thickness of 100-125 mils meets the following:
Tensile Elongation, ASTM D412: 100%
Tensile Strength, ASTM D412: 600-1000 psi
Shore D Hardness, ASTM A2240: >30
Gel Time/Tack Free: 3 to 10 seconds
Solids by Volume: 100%
Abrasion Resistance ASTM D4060: 250 mg.wt. loss/cycles



PATENT PENDING

Safety on the subway provides peace of mind for passengers.



Providing Solutions

Protection and Profitability: Quantum Group of Companies is a custom formulator and coatings consultant providing innovative services and technologies to protect your assets and add profitability to your operations. By confidently tackling any formulating problem, improving upon current technology and anticipating changes in the market, Quantum Group of Companies provides tailor-made solutions to the demands of industry. As an innovative leader in spray-applied coating technology, we are personally engaged in every phase of the process from initial research and development, manufacturing and distribution, to technical assistance, training and follow-up service. By 'providing solutions' with our protective coatings, we save you time and money.



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