



# TOUGH Beautiful

## PRECIDIUM™ Revolutionary Polymer Floor Systems

**Quality you can stand on. Quality we stand behind.**

### Design Engineered

PRECIDIUM™ floor system is a spray applied polymer that cures rapidly to form a seamless, durable floor system and was engineered to meet the most rigorous demands for aesthetics, regulatory requirements, fire safety, rapid return-to-service, and long-term durability.

### Safety Oriented

PRECIDIUM™ systems have the lowest flame spread, smoke, and toxicity in their class for use in mass transit applications in passenger railcars, bus and transit vehicles, as well as station and other floor areas.

### Providing Solutions

Quantum Group of Companies custom formulates solutions to meet the needs of virtually any industry. Contact our technical staff for a project evaluation and let us work together to find the right solution for you.



**780.454.9166 | [www.quantumcoatings.com](http://www.quantumcoatings.com)**





# PRECIDIUM™ FLOOR SYSTEM

PATENT PENDING

## DESCRIPTION

PRECIDIUM™ FLOOR SYSTEM is a spray applied polymer that cures rapidly to form a seamless, durable floor finish. PRECIDIU™ is available in a range of solid colors or with optional accent colors for a designer finish. As a spray-in-place floor system it offers the design flexibility of color variations. Options include guided walkways to ensure optimum traffic flow, borders or outlines, safety markings and custom logos permanently imbedded in the floor. PRECIDIU™ is the only spray-in-place floor system that exceeds all federal fire safety standards for use in mass transit applications. PRECIDIU™ is used in passenger railcar, bus and other transit vehicles as well as station and other floor areas.



## FEATURES

- Flame resistant - meets or exceeds all federal standards for mass transit
- Highly abrasion resistant - long lasting
- Superior impact resistance - no cracking or chipping
- Remains flexible at low temperatures - excellent traction in cold weather
- Stain resistant - reduces cleaning time

## PHYSICAL PROPERTIES

The finished spray flooring material with a thickness of 100 to 125 mils meets the following:

Tensile Elongation, ASTM D412:	100%
Tensile Strength, ASTM D412:	600-1000 psi
Shore D Hardness, ASTM A2240:	45-50 before texture is applied, with texture, hardness shall be 30 minimum
Gel Time/Tack Free:	3 to 10 seconds
Solids by Volume:	100%
Abrasion Resistance, ASTM D4060:	250 mg.wt. loss/cycles

## TEST REQUIREMENTS

PRECIDIUM™ FLOOR 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.

**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 Flamespread PRECIDIU™ average flamespread index is 22.60.

**Standard Test Method for Surface Burning Characteristics of Materials.** Method: **ASTM E84-05.** Requirement: Class A (I) 0-25 Flamespread. Flame spread for PRECIDIU™ is 20. Smoke developed rating 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 each of the following: 25, 50, and 75 kW/sq meter using horizontal sample position. Method: **ASTM E-1354.** Requirements:

- Maximum heat release rate: less than 150 kW/sq meter
- Average heat release rate at 3 minutes: less than 100 kW/sq meter
- Average heat release ignition to flameout: less than 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 (NO <sub>2</sub> ):	100 ppm
• Sulphur Dioxide (SO <sub>2</sub> ):	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.