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CrownPro™ SparkShield

Product Description Sheet No. 352 / 353

An Electrostatic Dissipating (ESD) Protective Epoxy Floor System

Description

CrownPro™SparkShield is an Electrostatic Dissipating (ESD) Epoxy Overlay System. It consists of two products, **Crown SparkShield 2mm SL Primer Base Coat**, (Product No. 352), a 100% solids, low viscosity conductive epoxy 2mm SL Base Coat and **CrownPro™ SparkShield Top Coat**, (Product No. 353), a 100% solids, low viscosity, non-shrink, two-component, modified conductive epoxy top coat used as a thin system designed to comply with NFPA 99 standards of static electricity dissipative surface resistance range of 1.0x106 to 1.0x109 ohms. The ESD system conducts electrical charges through the top coat into the conductive primer.

Recommended Use

- Clean Rooms, Laboratories, Warehouses
- Pharmaceutical and Chemical Industries
- Electronics and Computer Manufacturing
- Data Processing
- Automotive and Parts Manufacturing
- Military / Aerospace
- Photographic / Graphic Arts
- Where protection of sensitive electronic equipment is used or stored.
- Hazardous Industries with Dust or Chemical Environments

Advantages

- Excellent Working Time
- Cures and Adheres on Dry or Damp Concrete Surfaces
- Applicable and Curable Down to 2°C (35°F)
- 100% Solids System
- Easy to Apply with Squeegee and Roller
- Nearly No Odor During Application
- USDA and FDA Compliance
- Maintains ESD Performance over the Wear Life of the Floor.
- Does Not Depend on Relative Humidity for Conductivity Properties.
- Economical System
- Easy to Maintain and Clean
- Nonskid Finishes are Available

Colors

10 Standard Colors (Top coat only)

Custom colors are also available. Minimum order of 100 gallons (378 liters). See color chart for special provisions. Contact Crown Polymers for more information.

Packaging

- 352: 5 gallon kit: 1-5 gallon pail of Part A and 1-2 Gallon pail of part B - Covers 90 sq. feet per kit
- 353: 5 gallon kit: 1-5 gallon pail of Part A and 1-2 Gallon pail of part B - Covers 150 sq. feet per gallon

Typical Data for CrownPro SparkShield

Material and curing conditions at 73°F (23ºC), 50% R.H unless noted.

Surface Resistance (ANSI/ESD S7.1)	<1.0 x 10^9 Ω
Viscosity	550 – 750 cps.
Mix Ratio by Volume	352 - mixed by kit
Mix Ratio by Weight	353 - Comp "A" 70 to Comp "B" 30
Potlife	5-35 minutes
Consistency	Nearly Self-Leveling
Tack Free Time	
@ 50°F	10 – 12 hrs
@ 73°F	6 – 8 hrs
@ 90°F	5 – 7 hrs
Tensile Properties (ASTM D638) – 7 Days	
Tensile Strength	6,000 – 8,000 psi
Elongation at Break	4 – 6 %
Flexural Properties (ASTM D790) – 7 Days	
Flexural Strength	14,000 – 16,000 psi
Tangent Modulus of Elasticity	400,000 – 550,000 psi
Slant Shear Strength (ASTM C882) – 7 Days	
@ 50°F	4,000 psi; 100% Concrete Failure
@ 90°F	4,200 psi; 100% Concrete Failure
Compressive Strength (ASTM D695) Neat Polymer, 7 Days	13,100 – 14,000 psi
Compressive Strength (ASTM C579) EPC, 7 Days	10,250 – 11,500 psi
Hardness (Indentation – ASTM D2240) Neat Epoxy, 7 day cure, Durometer	Shore D 75 – 80
Indentation (Impact – MIL-D-3134, Para. 4.7.3) EPC, 7 day cure, Method:	1 in. diameter steel ram steadily applies a load of 2,000 lbs. for 30 min. on the test specimen that is placed on concrete. Value - 0.004 in. indentation
Indentation (Impact – MIL-D-3134, Para. 4.7.3) EPC, 7 day cure, Method:	2 lb. steel ball is dropped twice from an 8 ft. height. Value - 0.010 – 0.013 in. indentation
Adhesion to Concrete (Tensile Pull – ACI 503 R) EPC, 7 day cure	410 psi, 100% Concrete Failure
Abrasion Resistance (Taber – ASTM D 4060) EPC, 7 day cure, 1,000 cycles, 1,000 g. load, Wheel No. 17	Loss 0.05 g
Water Absorption (ASTM D 570) EPC, 7 day cure	Max. 0.15%
Coefficient of Thermal Expansion (ASTM D696) 7 days; -30°C (-22°F) / 30°C (86°F)	13.0 – 16.0 x 10^{-6} in / in./ °F
Flammability (ASTM D635) EPC, 7 day cure	Self-extinguishing
LEED EQ Credit 4.1	Meets
LEED EQ Credit 4.2	Meets
Shelf Life	1.5 years in original unopened containers
Packaging	5 Gal Units

CrownPro SparkShield, ESD Protective Overlay System

Color and Surface Profiles

• Base Coat (352) is available in Black only.

• Top Coat (353) is available in ten (10) standard colors. Darker colors are recommended for the best appearance.

• A variety of Surface Profiles, from a glossy smooth finish to a textured Orange - Peel look is available.

Typical Coverage

CrownSpark Shield is applied @ 2 mm thick with a gauge rake and CrownPro™SparkShield is typically applied at the rate of 160 ft2/gal (4 m2/liter) each. See Placement Methods Bulletin AM 15 for top coat placement instructions. Static dissipation must be tested onsite after installation before job is completed.

Preconditioning Polymer

When temperatures drop polymers typically thicken and it becomes harder to flow or to spread the product. When the temperatures are warmer they typically become thinner. To improve the flow-ability of product during placement, maintain temperatures before mixing at about 20°C (73°F). When the substrate temperature is 10°C (50°F), or lower, preheat each epoxy component to 32°C (90°F) before mixing. Caution the potlife will be reduced by about 50%.

Limitations

• DO NOT APPLY ON WET OR WATER SATURATED CONCRETE SURFACES.

• Do Not apply when substrate temperature is below 2°C (35°F).

• Excessive wear and scoring of the surface may alter electrical resistance capabilities.

Caution

Before Using, Read Safety Data Sheets.

Component "A" - Irritant -

Contains epoxy resins. Prolonged contact with skin may cause irritation. Avoid contact with eyes.

Component "B" - Corrosive -

Contains aliphatic / cycloaliphatic amines. Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitiz

Important Information

Use of safety goggles, chemical-resistant gloves, adequate ventilation and NIOSH/OSHA approved respirator is recommended.

Clean-Up

Components "A" & "B" - Ventilate area. Control spills. Collect with absorbent material.

Disposal

Dispose in accordance with current, applicable local, state, and federal regulations.

First-Aid

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. For respiratory problems, remove person to fresh air. Contact a physician immediately. Wash clothing before re-use.

Technical / Specification Services

Technical Support and Product & Application Specifications are available from Crown Polymers or our Local Representatives.

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

KEEP CONTAINERS TIGHTLY CLOSED

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