

DESCRIPTION

TuffRez 220 is an 85% reactive solids, high performance, amine adduct cured epoxy coating/lining system designed for use where electrostatic dissipative properties are required. TuffRez 220 is filled with a special metal coated mineral flake and contains no carbon fillers. It is used as a light to moderate traffic flooring system, corrosion resistant coating membrane on concrete or steel, and light duty immersion lining system.

TYPICAL APPLICATION

| | |
|-----------|-------------------------------|
| • Primer | PolySpec 300EX @ 5–7 mils |
| • Topcoat | TuffRez 220 @ 6–12 mils |
| • Options | Low Temperature Cure Additive |

PERFORMANCE DATA

| | |
|--|--|
| Electrical Resistance (ASTM F-150) | 10^7 to 10^{11} ohms |
| Compressive Strength (ASTM D-695) | 25,850 psi |
| Tensile Strength (ASTM D-638) | 9,300 psi |
| Hardness, Shore D (ASTM D-2240) | 75+ |
| Bond Strength, Steel (ASTM D-1002) | 1,920 psi |
| Bond Strength, Concrete (ASTM C-882) | breaks 5,000 psi concrete |
| Abrasion Resistance, 1000 gm/CS-17, 1000 cycles (ASTM C-501).... | 70 mg |
| Impact Resistance (ASTM D-256, Method A) | 0.32 ft-lb/in |
| Viscosity @75°F, mixed | 6,000 cps |
| Service Temperature | Dry 350°F; Splash/Spill 200°F; Immersion 130°F |
| Volume Solids | 85% Reactive |
| VOC (pounds/gallon) | 1.86 |

STORAGE & INSTALLATION

Storage

Cool, dry area; out of direct sunlight; not next to peroxides

Flash Point (Pensky-Martens Closed Cup) ... Resin: 70°F / Hardener: 225°F

Shelf Life

12 months @75°F

Pot Life

See table on next page

Material cures more slowly at cooler temperatures, and working time will be substantially reduced at higher temperatures. In hot weather, material should be cooled to 65°F to 80°F prior to mixing and application to improve workability and avoid shortened pot life. The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

CONSIDERATIONS & LIMITATIONS

1. This product is specially formulated to resist color fade and chalking when used outdoors in UV light. However, in time, the color may lose some of its luster, depending on color selected, and some chalking can also occur. These events will not adversely affect the coating system's overall performance in chemical containment areas.
2. Do not thin with solvents unless advised to do so by PolySpec.
3. Confirm product performance in specific chemical environment prior to use.
4. Prepare substrate according to "Surface Preparation" portion of this document.
5. Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
6. Always use protective clothing, gloves and goggles consistent with OSHA regulations during use. Avoid eye and skin contact. Do not ingest or inhale. Refer to Material Safety Data Sheet for detailed safety precautions.
7. For industrial/commercial use. Installation by trained personnel only.

TuffRez[®] 220

TECHNICAL DATA SHEET

Epoxy Coating/Lining, Electrostatic Dissipative

BENEFITS

- Electrical resistivity from 10^7 to 10^{11} ohms
- Resistant to many acids, alkalies, solvents and chemicals
- Exceptional abrasion resistance
- Optional low temperature cure additive enables installation at temperatures down to 35°F

RECOMMENDED USES

- Electrical component assembly areas
- Chemical process and waste treatment areas
- Product storage areas
- Equipment and building structures
- Other areas subject to fumes, splash and spillage of a variety of chemicals that require electrostatic dissipative (ESD) properties

GENERIC DESCRIPTION

Amine Adduct Cured Epoxy

STANDARD COLORS

Gray, Black, Off White
Please contact PolySpec for color samples

PACKAGING

1-Gallon Unit
5-Gallon Unit

COVERAGE

Steel: 120–144 ft² / gallon @ 10–12 mils

Concrete: Same as above if concrete is dense and primer is used. Porous or unprimed concrete may reduce coverage by 10–20%

SURFACE PREPARATION

Concrete: Apply only to clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants.

- *New concrete should be cured a minimum of 28 days.*
- *Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed.*
- *Remove any laitance or weak surface layers.*
- *Concrete should have a minimum surface tensile strength of at least 300 PSI per ASTM D-4541.*
- *Surface profile shall be CSP-3 to CSP-5 meeting ICRI (International Concrete Repair Institute) standard guideline #03732 for coating concrete, producing a profile equal to 60-grit sandpaper or coarser. Prepare surface by mechanical means to achieve this desired profile.*
- *Moisture vapor transmission should be 3 pounds or less per 1,000 square feet over a 24 hour time period, as confirmed through a calcium chloride test, as per ASTM E-1907. Quantitative relative humidity (RH) testing, ASTM F-2170, should confirm concrete RH results <75%.*
- *All surface irregularities, cracks, expansion joints and control joints should be properly addressed prior to application.*
- *Outgassing may occur due to the porosity of some concrete surfaces. To reduce the effect of outgassing, the primer and coating should be applied when the temperature of the concrete substrate is dropping. This usually occurs in the evening; however, the concrete substrate temperature should be measured with a surface thermometer for verification. Double priming will greatly reduce the effects of outgassing by additionally filling the pores in the concrete.*

Steel: For immersion service, “White Metal” abrasive blast with an anchor profile of 2–4 mils in accordance with Steel Structures Painting Council Specification SP-5-63 or NACE No. 1 is required. For splash and spillage exposure, “Near White” SP-10-63 or NACE No. 2 is required.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

1. Prime surface with PolySpec 300EX. See data sheet for application details.
2. Component A Resin should be premixed prior to using due to possible settling that may occur during transportation and storage.
3. Combine Component B Hardener and Component A Resin. Mix thoroughly using a mechanical jiffy-type mixer operated at low speed. Mix thoroughly until a uniform blend is attained.
4. Roll or spray the coating at 6–12 mils WFT. (Consult with PolySpec for recommended system thickness in specific chemical and ESD environments.)
5. Recoat according to the table outlined below. In the event that recoat time has expired, the surface must be roughened or abraded by light abrasive blasting to remove all shiny surfaces of the product. Then, after wiping all dust from the surface, the product is ready for topcoat application, within 4 to 6 hours.

| Temperature | Pot Life ² | Recoat Time | |
|-------------------|-----------------------|-------------|---------------------|
| | | Minimum | Maximum |
| ¹ 35°F | 4 hours | 48 hours | 7 days ³ |
| 50°F | 2 hours | 36 hours | 7 days ³ |
| 75°F | 90 minutes | 16 hours | 7 days ³ |
| 90°F | 60 minutes | 8 hours | 7 days ³ |

¹ With low temperature cure additive.

² Pot life test on 200 gram sample; working time in larger quantities will be shorter.

³ Maximum recoat for product exposed to direct sunlight (UV light) is 2 days.

6. For best results, clean tools and equipment with PolySpec® All Purpose Cleaner, a nonflammable and non-evaporating cleaner. Always wear gloves when using this product.

C / DOC TR220-TDS

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