POLY-TUFF SYSTEMS
INTERNATIONAL
HIGHWAY DIVISION

TECHNICAL DATA SHEET

TuffPoxy™ 4

Bridge and Parking Deck Penetrating Sealer

DESCRIPTION

TuffPoxy™ 4 is a two-component 100% solids epoxy designed as a very low viscosity, high strength sealer for hairline cracks in concrete substrates.

USES:

- Restoration of older concrete pavement decks
- Repair of new concrete decks with curing cracks
- Concrete crack repair without injection equipment
- Protection of deck rebar from corrosion

FEATURES:

- High Strength
- Chemical resistant bonding
- Extremely durable bonds
- Very low viscosity
- Fast setting
- Pre-measured packaging of components.
- Minimal shrinkage upon cure
- Substantial cost savings over new concrete

TECHNICAL DATA:

AASHTO Task Force 34 Epoxy Polymer Concrete Bridge Deck Overlays, ACI 548 Type EM (Epoxy Multi-Layer) Polymer Overlay, ASTM C-881, Type III, Grade I, Classes B & C.

COVERAGE GUIDE:

75-150 ft. per gal. depending on substrate.
All coverage rates are approximate. Coverage rates will vary with the texture and the porosity of the concrete.

PREPARATION:

New Concrete- Surface should be well cured (28 day minimum) using water, wet burlap, polyethylene curing paper, or dissipating resin based curing compound. Old Concrete- Remove any previously applied sealers, dust, dirt, tar, oil, etc. with pressure wash and PSI EnviroClean Citrus Cleaner or use other appropriate measures to properly prepare the substrate. Membranes of any kind must be removed.

MIXING:

Pre-mix each component. Proportion equal parts by volume of Components "A" and "B" into a clean mixing container. Add the Part "A" to the B Side Component using either the PSI Rapid Pail Mixer or a low-speed (400-600 rpm) drill using the PSI Jiffy Paddle utilizing the PSI Easy Stand. Mix until uniform in color. Only mix what can be applied within 25 minutes.

PLACEMENT:

Mix 1 part by volume of Part A Resin with 1 part of Part B Cure as packaged by PSI. A mechanical agitator should be used, such as an electric drill with a mixing paddle attached. After mixing thoroughly for at least three minutes, the epoxy may then be applied immediately by pouring onto the concrete deck or substrate. The mixed epoxy should be allowed to pool over the visible cracks, and then spread progressively thinner over the entire surface to be sealed with a squeegee or stiff bristle push broom. Soon after applying the epoxy to the substrate (within 30 minutes) depending upon ambient temperature and tackiness, mechanically broadcast kiln dried, medium coarse sand evenly onto the wet epoxy surface at a rate of 200-400 pounds of sand per 1000 sq. feet of epoxy sealed substrate. This is to promote an anti-skid surface. It is imperative to apply this sand into the epoxy film before it cures, or the sand will not adhere to the epoxy and a dangerously slick road surface could result. The final cured surface appearance should be dull and not glossy. Application of the epoxy should be restricted to an ambient and surface temperature range of 50-85°F range. Epoxy pot life decreases significantly as temperature increases. Therefore, working times for mixed epoxy are significantly shortened at elevated temperatures.

CURING/DRYING TIME:

Minimum Closure Times:
Weather Average Temperature of Deck, Epoxy, and Aggregate Components in ˚F (˚C):

85 °F + (29 °C+) . . . . . 1 Hour
84-75 °F (29-24 °C) . . . . . 1-3/4 Hours
74-65 °F (23-18 °C) . . . . . 2 Hours

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64-55 °F (18-13 °C) ..... 2-1/4 Hours
54-45 °F (12-7 °C) ..... 2-3/4 Hours
*44- °F (7°C -)..... 4+ Hours

NOTE: It is highly recommended that all components be conditioned in advance of use to 75°F (24°C). This may take 48 hrs. It is to the contractors benefit to maintain the components at elevated temperatures. At lower temperatures the resin will be become difficult to remove from containers and to mix properly.

CLEAN UP:
Tools and Equipment: Clean with Xylene or PSI Green Clean. Uncured material can be removed with PSI Solvent 100 or approved solvent. Cured material can only be removed mechanically. Dispose of in accordance with current applicable local, state and federal regulations. Cured Resins are Innocuous.

PACKAGING:
4 gallon units

COLOR:
Clear

STORAGE:
The material should be stored between 40°F – 95°F (4°C – 35°C) in a cool, dry area away from direct sunlight.

SHELF LIFE:
Shelf life of properly stored, unopened containers is 24 months. Excessive temperature differential and/ or high humidity can shorten the shelf life expectancy.

LIMITATIONS:
- Minimum substrate and ambient temperature for application 50°F (10°C).
- Do not apply over wet, glistening surface.
- Material is a vapor barrier after cure.
- Do not apply to porous surfaces exhibiting moisture-vapor transmission during the application. Consult Technical Service.
- Minimum age of concrete prior to application is 21-28 days, depending on curing and drying conditions.
- Use oven-dried aggregate only.
- Do not thin with solvents.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

CAUTION:
READ SDS PRIOR TO USING THIS PRODUCT.
Not suitable for asphaltic surfaces. Do not use over a curing membrane. Do not apply if precipitation is expected within four hours. **TuffPoxy™ 4** is not formulated for below grade waterproofing. Do not dilute. Wear protective gloves and goggles. Avoid prolonged skin contact.

WARRANTY:
Due to the use of this product beyond our control, we assume no liability for damages of any kind, and the user accepts the product "as is" and without warranties, expressed or implied, from either **Polymer Systems International** or its agents. The suitability of the product for an intended use shall be solely up to the user. Our only obligation shall be to replace or pay for any material proved defective, with our liability limited to the purchase price of materials supplied by us.

PHYSICALS:	
Mixing ratio (A:B) :1	by volume
Viscosity	100 centipoises max
Pot life (1 Lb mass@ 77° F)	0 minutes
Practical Field Pot Life (4 gals.@85° F)	15 min
Tack free time (77°F-ASTM 01640)	6.5 hrs
Initial cure (thin film @ 77°F)	8 hours
Full cure	7 days
Compressive strength (DMS-6100)	9000 psi
Concrete Wet Bond Strength	(DMS-6100)>400psi
Coverage	75-150 sq. ft./gal.
Water gain (ASTM D-570-57T)	0.2% max

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