

DIFFGUARD

TechnicalData: DIFFCOR/CR/06-18

Product Description:

DIFFGUARD is a 100% solid, multi-functional, two component polymer coating suited for concrete Substrates in aggressive chemical environments.

Application:

- Process area floors
- Secondary containment
- Pump pads, pedestals, curbs

Resists concentrated acids including 98% sulfuric acid, urea ammonium nitrate, and other aggressive chemicals. Superior thermal compatibility with concrete improved thermal shock resistance 100% solids, zero VOC formulation No baking required for achieving properties Temperature range 20 °C to 120 °C.

Technology	Epoxy Novolac
Chemical Type	Epoxy resin
Appearance(Base)	Red
Appearance(Activator)	Brown
Appearance(Mixed)	Dark Red
Components	Two component-requires mixing
Mix Ratio, by volume Resin: Hardener	1:1
Mix Ratio, by weight Resin: Hardener	1:1
Cure	Room temperature cure
Application	Acid resistance

TYPICAL PROPERTIES OF UNCURED MATERIAL

- Base:**
 Viscosity: Sprayble/Brushable
 Weight per liter: 1.18 kg/liter
- Hardener:**
 Viscosity: liquid
 Weight per liter: 1.05 kg/liter
- Mixed:**
 Viscosity: can be brush
 Coverage: 0.55 m² @ 1mm thick/1kg

TYPICAL CURING PERFORMANCE

- Curing Properties**
 Gel Time @ ambient temp: minutes 20 to 30

Curing time vs. Temperature

Ambient temp	20°C	25°C	30°C
Pot life	40-45min	25-30min	20-25min
Full cure	15hrs	10-12hrs	08-10 hrs.

Typical cured properties of material

- Compressive strength (ASTM D642) 4500-4800 Psi
- Flexural strength (ASTM 790) 5500-6000 Psi
- Hardness shore D (ASTM D2240) 80-85
- Tensile strength (ASTM D882) 3500-4000 Psi
- Elongation At break % (ASTM D882) 1.2
- Shear strength (ASTM D1002) 2000-2200 Psi
- On grit blasted MS surface
- Abrasion resistance (ASTM D4060) 138 mg
- H-18 wheels, 1000 cycles
- Water vapor permeability (ASTM D1653) 0.00041

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.

Metal Surface: Clean surface to remove oily, rust and any foreign particles. Abrasive blasting with compressed air to achieve surface Preparation of S A 2^{1/2} or Metal surfaces should be grit blasted to a SSPC-SP5 or NACE #1

Application Procedure:

1. Prime surface with DIFF-PRIME with special coating ,dog-leg type Brush
2. DIFF-GUARD Base & Activator should be premixed prior to using due to possible pigment settling that may occur during transportation and storage. Mechanical type mixer operated at low speed can be used if steeling is high.
3. Pour DIFF-GUARD activator component into the DIFF-GUARD Base and mix well, if required with a mechanical type mixer operated at low speed. Scrape the side of the pail to ensure the entire product has been properly mixed any unmixed material left on the side of the container will not cure. Material can be fractionized as per requirement of job but in proper mixing ration
4. Move quickly and empty contents onto surface as soon as possible to provide maximum working time. After the first coat has become slightly tack free (within approximately 4 hours apply an additional coat of resin/hardener mixture according to Step 4.



DIFFUSION ENGINEERS LIMITED