

Technical Data Sheet

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Product Name: RELINFORCE Surface Shield III HL

Ambient quick cure protective resin system for metal and concrete.

Description

Three component low viscosity resin system for corrosive environments. It rapidly wets the surface of glass fiber in the form of cloth, roving and emulsion and powder bonded mats to form a protective lamination on concrete and metal. The product is designed to resist variety of chemicals including sulfuric and phosphoric acids.

Application Areas

- As primer, mid coat or top coat in corrosive environments
- Suitable for metal and concrete substrates
- Suitable for offshore and onshore installations
- Suitable for buried tanks & pipes internally or externally.

Features & Benefits

- Low viscosity assists in opting desired processing techniques
- Fast curing and strength buildup
- High Wear and Abrasion Resistance
- Superior chemical resistance

System Physical properties

Parameters	UOM	Specification
Appearance	Visual	Clear pale yellow liquid
Acid Value	mg KOH / gm	≤ 10
Volatile Content	%	38 - 42
Specific Gravity @ 25 ^o c	-	1.04 - 1.08
Viscosity @ 25 ^o c	cps	300 - 400
Gel Time @ 25 ^o c with Resin 100 gms; Catalyst 1 phr & Promoter 0.3 phr	min	30 - 60
Peak Exotherm	°C	150 - 190

* Gel time will vary with temperature and with amount of promoter and catalyst used

System Mechanical Properties

Casting specimens for testing of mechanical properties are prepared by curing the resins with Catalyst 1 phr & Promoter 0.3 phr, added to 100 gms of resin. The specimens are cured for 24 hours at room temperature followed by post curing for 4 hours at 80°C.

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Test	Method	Value
Tensile Strength (Mpa)	ASTM D 638	> 70
Tensile Modulus (Gpa)	ASTM D 638	> 3
Flexural Strength (Mpa)	ASTM D 790	> 30
Flexural Modulus (Gpa)	ASTM D 790	> 3
Heat deflection temperature (°C)	-	> 100
Hardness	Barcol	> 35

Component Details & Physical Properties

	Resin	Catalyst	Promotor	Mixed
Feel	Liquid	Liquid	Liquid	Liquid
Mixing Ratio (phr)	100	1.0	0.3	-
Application Thickness				< 3mm
Change in Volume				7 - 8% Shrinkage Observed

Note: * Ambient Temperature will affect the Pot life & Setting Time of the Product & is inversely related.

Chemical Resistance

Sr. No.	Chemical	Recommended Exposure
1	40% H ₂ SO ₄	Recommended Up to 80°C
2	40% H ₃ PO ₄	Recommended Up to 80°C

Mixing Procedure

In 100 phr of resin, first add & mix 0.3 phr promotor followed by addition of 1 phr catalyst

Application Procedure

- Surface to be clean of Oil, Grease, dust, curing compound, mould release agent & any other material which will affect the adhesion of system to substrate.
- Appropriate Methodology to be adopted to achieve sound substrate for application of *RELINFORCE Surface Shield III HL*
- In case of concrete, smaller loose portion to be removed & faired with *RELINFORCE EP Putty* or *RELINFORCE Bond Coat* (as per area of application)
- Application to ensure all pinholes & surface undulation is covered with *RELINFORCE EP Putty* / *RELINFORCE Bond Coat* before application of *RELINFORCE Surface Shield III HL*

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- Substrate Residual Moisture to be less than 4%. Not to be applied on substrate with rising dampness.
- Apply with a roller or trowel on the surface to be strengthened, properly prepared and not wet. For fabrics impregnation is recommended to use saturator. Apply the reinforcement tape or fabric, taking care to arrange the fibers taut and wrinkle free while protect hands with waterproof gloves. Roll the surface with spiked rollers ensuring the proper impregnation. Install a second resin layer to complete saturation and incorporation of the reinforcement. Repeat several times stratification as defined in the project. Do not exceed recommended maximum thickness provided for this product. Any overlap must be carried out on partially hardened system within the times reported in this TDS to ensure chemical bond between the two layers. Where it's necessary to adhere to the cured reinforcement system with plaster or other building systems, add dusting granulated quartz (0.7 - 1.2mm) to the system surface when is not completely hardened.

Packaging Size

Resin: 35 Kg

Catalyst: 350 mL

Promoter: 105 mL

Shelf Life

Resin: 3 Months

In some markets commercial shelf life can be dictated shorter by local legislation. The above is minimum shelf life, thereafter the quality is subject to re-inspection.

Storage Condition

- Material to be stored in cool dry place
- To be kept in shade with no direct sunlight
- Storage temperature not to exceed 25 °C.

Health & Safety Hazard Condition

Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention sought immediately.

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