Technical Data Sheet
Version 3. 09/2023

Wear Guard™ 300 RTC

Description:

Wear Guard™ 300 RTC is a revolutionary wear and abrasion alumina ceramic bead-filled Novalac epoxy compound. Wear Guard™ 300 RTC is formulated to significantly outlast traditional wear and abrasion products while also providing superior performance in both dry and wet environments up to 300°F (149°C).

Intended Use:

Repair and protect flotation tanks, scrubbers, ash handling systems, pipe elbows, screens, and chutes; recontour chippers, bins, hoppers, bunkers, separators, diester tables; protect exhausters, chutes, launderers, housing fans, crushers, and breakers.

Features:

Room Temperature Cure, easy to mix and apply, great elevated service temperature resistance, trowelable to a smooth surface, can be finished/smoothened with water. Outstanding wear resistance and flexibility. Can be heat cured to achieve maximum physical properties in just 2 hours.

Typical Physical Properties:

Technical data should be considered representative or typical only and should not be used for specification purposes.

Cured 7 Days @ 75°F (24°C)	Typical Values	Standard Tests
Adhesive Lap Shear	600 psi (4.1 MPa) @ 225°F (107.2°C)	ASTM D1002 Adhesive Tensile Shear
Compressive Strength	12,500 psi (86.18 MPa)	ASTM D695 Compressive Strength
Flexural Displacement	0.10 in (2.54 mm)	ASTM D2240 Cured Hardness
Flexural Strength	5,000 psi (34.5 MPa)	ASTM D790 Flexural Strength
Hardness	85 Shore D	ASTM D4541 Coatings Pull Off Strength
Pull-Off Adhesion	2,000 psi (13.8 MPa)	ASTM D4060 (H-18) Abrasion Resistance
Solids by Volume	100	
Wet Abrasion Resistance	0.13 in (3.3 mm) /week @ 1000 RPM	
Taber Abrasion	12 mg/1000 cycles	
Temperature Resistance	Dry/Wet 300°F (149°C)	

Uncured Properties @ 72°F (23°C)	
Color	Blue
Coverage (1/4" / 6.35mm)	50 in2/lb (711.2 cm2/kg)
Functional Cure	8-10 hours
Full Cure	16 hours
Mix Ratio by Volume	2:1
Mix Ratio by Weight	2:1
Mixed Viscosity	Non-sag putty
Pot Life	50-70 minutes
Recoat Time	4-6 hours
Specific Gravity	18.4 lb/Gal (2.2 g/cm3)
Sag	Up to 1/4" (6.35 mm)

Surface Preparation:

1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease and dirt.
2. Grit blast surface area with 8-40 mesh grit, or grind with a coarse wheel or abrasive disc pad, to create increased surface area for better adhesion (Caution: An abrasive disc pad can only be used provided white metal is revealed). Desired profile is 3-5mil, including defined edges (do not "feather-edge" epoxy).

Note: For metals exposed to sea water or other salt solution, grit-blast and high-pressure-water-blast the area, then leave overnight to allow any salts in the metal to “sweat” to the surface. Repeat blasting to “sweat out” all soluble salts. Perform chloride contamination test to determine soluble salt content (should be no more than 40ppm).

3. Clean surface again with Devcon® Cleaner Blend 300 to remove all traces of oil, grease, dust, or other foreign the grit blasting.
4. Repair surface as soon as possible to eliminate any changes or surface contaminants.

WORKING CONDITIONS: Ideal application temperature is 55°F to 90°F (13°C to 32°C). In cold working conditions, directly heat repair area to 100-110°F (38-43°C) prior to applying epoxy and maintain at this temperature during product cure to dry off any moisture, contamination or solvents, as well as to achieve maximum performance properties.

---- It is strongly recommended that full units be mixed, as ratios are pre-measured. ----

Mixing Instructions:

1. Add hardener to resin.
2. Mix thoroughly with screwdriver or similar tool (continuously scrape material away from sides and bottom of container) until a uniform, streak-free consistency is obtained.

LARGE SIZES: (25 lb., 30 lb., 50 lb. buckets): Use a T-shaped mixing paddle or a propeller-type Jiffy Mixer Model ES on an electric drill. Thoroughly fold putty by vigorously moving paddle/propeller up and down until a homogenous mix of resin and hardener is attained.

Application Instructions:

Spread mixed material on repair area at a minimum thickness of 0.25". Work firmly into substrate to ensure maximum surface contact. Wear Guard™ 300 RTC fully cures in 16 hours, at which time it can be machined, drilled, or painted.

FOR BRIDGING LARGE GAPS OR HOLES

Place fiberglass sheet, expanded metal, or mechanical fasteners between repair area and Wear Guard™ 300 RTC prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Wear Guard™ 300 RTC can be troweled up to 1/4" (6.35 mm) thick without sagging.

FOR ACCELERATED FULL CURE

Heat cure for 2 hours at 212°F (100°C) to achieve maximum physical properties.

FOR ± 70°F (21°C) APPLICATIONS

Applying epoxy at temperatures below 70°F (21°C) lengthens functional cure and pot lifetimes. Conversely, applying above 70°F (21°C) shortens functional cure and pot life.

Storage:

Store in a cool, dry place.

Chemical Resistance:

Chemical resistance is calculated with a 7 day, room temp. cure (30 day immersion) @ 75°F (24°C)

Acetic 10% (Dilute)	Poor	Nitric 50%	Poor
Cutting Oil	Excellent	Phosphoric 50%	Excellent
Gasoline (Unleaded)	Excellent	Potassium Hydroxide 40%	Very Good
Hydrochloric 36%	Excellent	Sodium Hydroxide 50%	Excellent
Methanol	Poor	Sodium Hypochlorite	Excellent
Methyl Ethyl Ketone	Poor	Sulfuric 10%	Excellent
Methylene Chloride	Poor	Sulfuric 50%	Excellent
Nitric 10%	Fair	Toluene	Excellent

Precations:

FOR INDUSTRIAL USE ONLY: Please refer to the appropriate **S**aftey **D**ata **S**heet prior to using this product.

Warranty:

ITW Performance Polymers will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.

Order Information:

Item No.	Package Size
11430	30 lb (13.6 Kg)

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