

Wear Guard™ Ultra Fine Load

Description:	SiC-filled epoxy putty with outstanding wear and abrasion resistance for severe service conditions.
Intended Use:	Applications involving particulate less than 1.6 mm: pipe elbows, pulverizers and slurry lines, cyclones and exhausters fans, chutes.
Product Features:	<p>Outstanding wear and abrasion resistance</p> <p>Resistance to a wide range of chemicals</p> <p>Room temperature cure</p> <p>Non-sagging</p>
Limitations:	None

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

Typical Physical Properties:

Cure 7 days @ 25°C

Adhesive Lap Shear	11.5 MPa
Coefficient of Thermal Expansion	10 [mm / (mm x °C)] x 10(-6)
Color	Grey
Compressive Strength	104.0 MPa
Cured Hardness	87D
Cured Shrinkage	0.0001 mm./mm.
Dielectric Constant	32
Flexural Strength	53.6 MPa
Modulus of Elasticity	20.6 GPa
Recoat Time	3-6 hrs
Specific Volume	444 cm³/Kg
Specific Gravity	2.26 g/cm³
Temperature Resistance	Wet: 60°C; Dry: 150°C
Tensile Strength	43.8 MPa

TESTS CONDUCTED

Adhesive Tensile Shear ASTM D 1002
Coef. of Thermal Expansion ASTM D 696
Compressive Strength ASTM D 695
Cure Shrinkage ASTM D 2566
Cured Hardness Shore D ASTM D 2240
Dielectric Constant ASTM D 150
Flexural Strength ASTM D 790
Modulus of Elasticity ASTM D 638
Tensile Strength ASTM D 638

Uncured

% Solids by Volume	100
Coverage	740 cm²/Kg @ 6 mm
Cure Time	16 hrs
Functional Cure	6-8 hrs
Mix Ratio by Weight	10:1
Mixed Viscosity	Non-sag putty
Pot Life @ 25°C	30 min

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 mesh is revealed). Desired profile is 0.08-0.012 mm, 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 Cleaner Blend 300 to remove all traces of oil, grease, dust, or other foreign substances from the grit blasting.
 4. Repair surface as soon as possible to eliminate any changes or surface contaminants

WORKING CONDITIONS: Ideal application temperature is 13°C to 32°C. In cold working conditions, heat repair area to 38-43°C immediately prior to applying epoxy to dry off any moisture, contamination, or solvents, as well as to assist epoxy in achieving maximum adhesion properties.

Mixing

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

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.

INTERMEDIATE SIZES (0.45, 0.90, 1.35 Kg. units): Place resin and hardener on a flat, disposable surface such as cardboard, plywood, or plastic sheet). Use a trowel or wide-blade tool to mix the material as in Step 2 above.

LARGE SIZES: (11.35, 13.60, 22.70 Kg. 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

ADDITIONAL SURFACE PREPARATION INFORMATION:

Instructions:

If grit blasting is not possible, and expandable metal cannot be used, apply Devcon Brushable Ceramic at 0.28–0.46 mm to prime the metal surface. Allow to cure for approximately 2 hours, or until a fingernail can almost depress the primed surface. Immediately apply Wear Guard™ Ultra Fine Load to the surface. **DO NOT** let the "prime coat" fully cure before applying Wear Guard™ Ultra Fine Load.

Spread mixed material on repair area at a minimum thickness of 6 mm. Work firmly into substrate to ensure maximum surface contact. Wear Guard™ Ultra Fine Load 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™ Ultra Fine Load prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Wear Guard™ Ultra Fine Load can be troweled up to 19 mm thick without sagging.

FOR MAXIMUM PHYSICAL PROPERTIES

Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 93°C.

FOR ± 20°C APPLICATIONS

Applying epoxy at temperatures below 20°C lengthens functional cure and pot life times. Conversely, applying above 20°C shortens functional cure and pot life.

Storage:

Store at room temperature.

Compliances:

None

Chemical Resistance:

Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 25°C

1,1,1-Trichloroethane	Very good
Ammonia	Excellent
Gasoline (Unleaded)	Fair
Hydrochloric 10%	Very good
Methanol	Poor
Methyl Ethyl Ketone	Poor
Methylene Chloride	Poor

Nitric 10%	Fair
Phosphoric 10%	Fair
Potassium Hydroxide 40%	Excellent
Sodium Hydroxide 50%	Excellent
Sulfuric 10%	Very good
Toluene	Excellent
Trisodium Phosphate	Very good

Precautions:

Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

For technical assistance, please call 1-800-933-8266.

FOR INDUSTRIAL USE ONLY

Warranty:

Devcon 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.

Disclaimer:

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data.

Order Information:

11570 5.0 kg