



# Wear Guard™ Fine Load

**Description:** High-density, micro-alumina ceramic bead-filled epoxy system for protecting equipment that handles particulate smaller than 1/8" (3.2 mm).

**Intended Use:** Industrial Use: Dust particulate applications including slurry pumps, scrubbers, screens, and screw conveyors

**Features:** **Services temperatures to 300°F (149°C)**  
**Trowelable to a smooth surface**  
**Outstanding resistance to a wide range of chemicals**

**Limitations:** Suitability of product is determined by the end user for their application and process.

**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)**

	<b>Typical Values</b>
Adhesive Tensile Shear	1,375 psi (9.5 MPa)
Coefficient of Thermal Expansion (x10-6)	34 in/in.°F (61.2 cm/cm.°C)
Compressive Strength	11,000 psi (76 MPa)
Cured Shrinkage	0.0006 in/in (cm/cm)
Dielectric Constant	46
Flexural Strength	7,190 psi (49.6 MPa)
Hardness	87 Shore D
Solids by Volume	100
Temperature Resistance	Wet: 140°F (60°C); Dry: 300°F (149°C)
Tensile Strength	4,300 psi (30 MPa)

**Standard Tests**

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

**Uncured Properties @ 72°F (23°C)**

Color	Grey
Coverage (1/4" / 6.35 mm)	50 in <sup>2</sup> /lb (711 cm <sup>2</sup> /kg)
Functional Cure	6 - 8 hours
Full cure	16 hours
Mix Ratio by Volume	2:1
Mix Ratio by Weight	2:1
Mixed Viscosity	Non-sag putty
Pot Life @ 75F	30 min.
Recoat Time	4 - 6 hrs.
Specific Gravity	18.4 lb/Gal (2.2 g/cm <sup>3</sup> )
Specific Volume	12.6 in <sup>3</sup> /lb (0.454 cm <sup>3</sup> /g)

**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 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 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.

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

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 (1,2,3 lb. 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: (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:**

**ADDITIONAL SURFACE PREPARATION INFORMATION:**

If grit blasting is not possible, and expandable metal cannot be used, apply Devcon Brushable Ceramic at 11-18 mils (280-460 microns) 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™ Fine Load to the surface. DO NOT let the "prime coat" fully cure before applying Wear Guard™ Fine Load.

Spread mixed material on repair area at a minimum thickness of 1/4" (6.35 mm). Work firmly into substrate to ensure maximum surface contact. Wear Guard™ 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™ Fine Load prior to application.

**FOR VERTICAL SURFACE APPLICATIONS**

Wear Guard™ Fine Load can be troweled up to 3/4" thick (19 mm) without sagging.

**FOR MAXIMUM PHYSICAL PROPERTIES**

Cure at room temperature for 2.5 hours, then heat cure for 4 hours at 200°F (93°C).

**FOR ± 70°F (21°C) APPLICATIONS**

Applying epoxy at temperatures below 70°F lengthens functional cure and pot life times. Conversely, applying above 70°F shortens functional cure and pot life.

**Storage:**

Store at room temperature, 70°F (21°C).

**Compliances:**

None

**Chemical Resistance:**

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

1,1,1-Trichloroethane	Very good
Ammonia	Excellent
Benzene	Very good
Gasoline	Excellent
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:**

**FOR INDUSTRIAL USE ONLY:** Please refer to the appropriate Safety Data Sheet 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:**

<u>Item No.</u>	<u>Package Size</u>
11470	30 lb. (13.6 kg)

**Contacts:**

[www.itwpp.com](http://www.itwpp.com)  
ITW Performance Polymers (EMEA)  
Bay 150, Shannon Industrial Estate  
Shannon, County Clare, Ireland V14 DF82  
TEL: +353 61 771 500  
FAX: +353 61 471 285  
Email: customerservice.shannon@itwpp.com

ITW Performance Polymers (US)  
30 Endicott Street  
Danvers, MA 01923 USA  
TEL: 855 489 7262  
FAX: 978 774 0516  
Email: info@itwpp.com

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