



# Wear Guard™ High Load

- Description:** Alumina ceramic bead-filled epoxy system with outstanding abrasion resistance for severe service conditions with particulate greater than 1/8" (3.2 mm).
- Intended Use:** Industrial Use: Repair scrubbers, ash handling systems, pipe elbows, screens, and chutes; recontour chippers, bins, bunkers, separators, diester tables; protect exhausters, chutes, launderers, housing fans, crushers, and breakers
- Features:** **Outstanding resistance to a wide range of chemicals**  
**Service temperatures to 300°F (149°C)**  
**Non-sagging**
- Limitations:** Suitability of product is determined by the end user for their application and process.

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

**Typical Physical Properties:**

Cured 7 Days @ 75°F (24°C)	Typical Values	Standard Tests
Adhesive Tensile Shear	1,474 psi (10.2 MPa)	Compressive Strength ASTM D 695
Coefficient of Thermal Expansion (x10-6)	29 in/in.°F (52.2 cm/cm.°C)	Cured Hardness Shore D ASTM D 2240
Compressive Strength	11,000 psi (75.8 MPa)	Coef. of Thermal Expansion ASTM D 696
Cured Shrinkage	0.0006 in/in (cm/cm)	Dielectric Constant ASTM D 150
Dielectric Constant	41	Flexural Strength ASTM D 790
Flexural Strength	7,140 psi (49.2 MPa)	Adhesive Tensile Shear ASTM D 1002
Hardness	87 Shore D	Cure Shrinkage ASTM D 2566
Solids by Volume	100%	Dielectric Strength, volts/mil ASTM D 149
Temperature Resistance	Wet: 140°F (60°C); Dry: 300°F (149°C)	Thermal Conductivity ASTM C 177
Tensile Strength	4,210 psi (29 MPa)	Modulus of Elasticity ASTM D 638
Uncured Properties @ 72°F (23°C)		
Color	Grey	
Coverage (1/4" / 6.35 mm)	50 in2/lb (711 cm2/Kg)	
Full Cure	16 hrs.	
Functional Cure	3 hrs	
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 (2.20 g/cm3)	
Volume	12.9 in3/lb (0.466 cm3/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°C to 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™ High Load to the surface. DO NOT let the "prime coat" fully cure before applying Wear Guard™ High 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™ High 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™ High Load prior to application.

**FOR VERTICAL SURFACE APPLICATIONS**

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

**FOR MAXIMUM PHYSICAL PROPERTIES**

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

**FOR ± 70°F (21°C) APPLICATIONS**

Applying epoxy at temperatures below 70°F (21°C) lengthens functional cure and pot life times. Conversely, applying above 70°F (21°C) 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	Excellent
Ammonia	Excellent
Hydrochloric 36%	Excellent
Gasoline	Excellent
Methanol	Fair
Ethanol	Fair
Methyl Ethyl Ketone	Poor
Methylene Chloride	Very good

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

**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:**

Item No.      Package Size  
11490          30 lb. (13.6 kg)

**Contacts:**

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