



# Wear Guard™ High Impact

**Description:** High density, micro alumina ceramic bead-filled epoxy system with urethane acrylate for superior impact abrasion used for protecting equipment against tremendous impact and flex.

**Intended Use:** High impact applications in pumps, scrubbers, screens, chutes, handling equipment and screw conveyers.

**Features:**  
Extremely wear resistant  
Non-sagging putty, creamy paste  
High compression and impact strength  
Service temperatures to 300°F (149°C)

**Limitations:** None.

**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
Adhesive Tensile Shear	2,567 psi (17.7 MPa)
Coefficient of Thermal Expansion (x10-6)	34 in/in.°F (61.2 cm/cm.°C)
Compressive Strength	7,250 psi (50 MPa)
Cured Shrinkage	0.0006 in/in (cm/cm)
Dielectric Constant	46
Flexural Strength	6,144 psi (42 MPa)
Hardness	85 Shore D
Solids by Volume	100
Temperature Resistance	Wet: 140°F (60°C) ; Dry: 300°F (149°C)
Tensile Strength	4,220 psi (29 MPa)

### Standard Tests

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

### Uncured Properties @ 72°F (23°C)

Color	Dark Grey
Coverage (1/4" / 6.35 mm)	50 in <sup>2</sup> /lb (711 cm <sup>2</sup> /Kg)
Full Cure	16 hrs.
Functional Cure	6 - 8 hrs.
Mix Ratio by Volume	2.5 : 1
Mix Ratio by Weight	2.5 : 1
Mixed Viscosity	Non-sag putty
Pot Life @ 75F	30 min.
Recoat Time	4 - 6 hrs.
Specific Gravity	18.6 lb/Gal (2.23 g/cm <sup>3</sup> )
Specific Volume	12.4 in <sup>3</sup> /lb (0.448 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 40 ppm).

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 - 32°C). In cold working conditions, directly heat repair area to 100-110°F (38°C - 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 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 Impact to the surface. DO NOT let the "prime coat" fully cure before applying WG High Impact.

Spread mixed material on repair area at a minimum thickness of 1/4" (6.4 mm). Work firmly into substrate to ensure maximum surface contact. Wear Guard™ High Impact 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 Impact prior to application.

**FOR VERTICAL SURFACE APPLICATIONS**

Wear Guard™ High Impact can be troweled up to 3/4" thick 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 (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	Very good	Nitric 10%	Fair
Ammonia	Excellent	Phosphoric 10%	Fair
Benzene	Very good	Potassium Hydroxide 40%	Excellent
Gasoline	Excellent	Sodium Hydroxide 50%	Excellent
Hydrochloric 10%	Very good	Sulfuric 10%	Very good
Methanol	Poor	Toluene	Excellent
Methyl Ethyl Ketone	Poor	Trisodium Phosphate	Very good
Methylene Chloride	Poor		

**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**  
11460            30 lb. (13.6 kg)

**Contacts:**

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