



A brand of ITW Polymers Adhesives North America

# 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"

**Intended Use:** Repair 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

**Product features:** Outstanding resistance to a wide range of chemicals  
Services temperatures to 300 °F  
Non-sagging

**Limitations:** None

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

<b>Typical Physical Properties:</b>	<b>Cured 7 days @ 75° F</b>		<b>TESTS CONDUCTED</b>
	<b>Adhesive Tensile Shear</b>	1,474 psi	Compressive Strength ASTM D 695
	<b>Coefficient of Thermal Expansion</b>	29 [(in.) / (in. x °F)] x 10(-6)	Cured Hardness Shore D ASTM D 2240
	<b>Color</b>	Grey	Coef. of Thermal Expansion ASTM D 696
	<b>Compressive Strength</b>	11,000 psi	Dielectric Constant ASTM D 150
	<b>Coverage/lb</b>	50 sq.in./lb. @ 1/4"	Flexural Strength ASTM D 790
	<b>Cured Hardness</b>	87D	Adhesive Tensile Shear ASTM D 1002
	<b>Cured Shrinkage</b>	0.0006 in./in.	Cure Shrinkage ASTM D 2566
	<b>Dielectric Constant</b>	41.0	Dielectric Strength, volts/mil ASTM D 149
	<b>Flexural Strength</b>	7,140 psi	Thermal Conductivity ASTM C 177
	<b>Full Cure</b>	16 hrs.	Modulus of Elasticity ASTM D 638
	<b>Functional Cure</b>	6-8 hrs.	
	<b>Mix Ratio by Volume</b>	2:1	
	<b>Mix Ratio by Weight</b>	2:1	
	<b>Mixed Viscosity</b>	Non-sag putty	
	<b>Pot Life @ 75F</b>	30 min.	
	<b>Recoat Time</b>	4 - 6 hrs.	
	<b>Solids by Volume</b>	100	
	<b>Specific Gravity</b>	2.20 gm/cc	
	<b>Specific Volume</b>	12.9 in.(3)/lb.	
<b>Temperature Resistance</b>	Wet: 140 °F; Dry: 300 °F		
<b>Tensile Strength</b>	4,210 psi		

**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. In cold working conditions, directly heat repair area to 100-110 °F 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 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". 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" thick without sagging.

**FOR MAXIMUM PHYSICAL PROPERTIES**

Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 200°F.

**FOR ± 70°F 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.

**Compliances:**

None

**Chemical Resistance:**

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

1,1,1-Trichloroethane	Very good	Nitric 10%	Fair
Ammonia	Excellent	Phosphoric 10%	Fair
Benzene	Very good	Potassium Hydroxide 40%	Excellent
Gasoline (Unleaded)	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:**

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:**

**11490 30 lb.**