



A brand of ITW Polymers Adhesives North America

# Wear Guard™ Fine Load

- Description:** High-density, micro-alumina ceramic bead-filled epoxy system for protecting equipment that handles particulate smaller than 1/8"
- Intended Use:** Dust particulate applications including slurry pumps, scrubbers, screens, and screw conveyors
- Product features:**
  - Services temperatures to 300 °F
  - Trowelable to a smooth surface
  - Outstanding resistance to a wide range of chemicals
- Limitations:** None

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**

|   |   |
|---|---|
| <b>Adhesive Tensile Shear</b>           | <b>1,375psi</b>                         |
| <b>Coefficient of Thermal Expansion</b> | <b>34 [(in.) / (in. x °F)] x 10(-6)</b> |
| <b>Color</b>                            | <b>Grey</b>                             |
| <b>Compressive Strength</b>             | <b>11,000 psi</b>                       |
| <b>Coverage/lb</b>                      | <b>50 sq.in./lb. @ 1/4"</b>             |
| <b>Cured Hardness</b>                   | <b>87D</b>                              |
| <b>Cured Shrinkage</b>                  | <b>0.0006 in./in.</b>                   |
| <b>Dielectric Constant</b>              | <b>46.0</b>                             |
| <b>Flexural Strength</b>                | <b>7.190 psi</b>                        |
| <b>Full Cure</b>                        | <b>16 hours</b>                         |
| <b>Functional Cure</b>                  | <b>6 - 8 hours</b>                      |
| <b>Mix Ratio by Volume</b>              | <b>2:1</b>                              |
| <b>Mix Ratio by Weight</b>              | <b>2:1</b>                              |
| <b>Mixed Viscosity</b>                  | <b>Non-sag putty</b>                    |
| <b>Pot Life @ 75F</b>                   | <b>30 min.</b>                          |
| <b>Recoat Time</b>                      | <b>4 - 6 hrs.</b>                       |
| <b>Solids by Volume</b>                 | <b>100</b>                              |
| <b>Specific Gravity</b>                 | <b>2.2 gm/cc</b>                        |
| <b>Specific Volume</b>                  | <b>12.4 in.(3)/lb.</b>                  |
| <b>Temperature Resistance</b>           | <b>Wet: 140 °F; Dry: 300 °F</b>         |
| <b>Tensile Strength</b>                 | <b>4,300 psi</b>                        |

**TESTS CONDUCTED**

- Compressive Strength ASTM D 695
- Cured Hardness Shore D ASTM D 2240
- Cure Shrinkage ASTM D 2566
- Dielectric Strength, volts/mil ASTM D 149
- Modulus of Elasticity ASTM D 638
- Adhesive Tensile Shear ASTM D 1002
- Coef. of Thermal Expansion ASTM D 696
- Dielectric Constant ASTM D 150
- Flexural Strength ASTM D 790
- Thermal Conductivity ASTM C 177

**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™ 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". 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 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:**

**11470 30 lb.**