

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.

PRODUCT FEATURES

- Extremely wear resistant
- Non-sagging putty, creamy paste
- High compression and impact strength
- Services temperatures to 300°F

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	Standard Tests
Adhesive Tensile Shear	2,567 psi (17.7 MPa)	Adhesive Tensile Shear ASTM D 1002
Coefficient of Thermal Expansion (x10-6)	34 in/in.°F (61.2 cm/cm.°C)	Compressive Strength ASTM D 695
Compressive Strength	7,250 psi (50 MPa)	Cured Hardness Shore D ASTM D 2240
Cured Shrinkage	0.0006 in/in (cm/cm)	Coef. of Thermal Expansion ASTM D 696
Dielectric Constant	46	Cure Shrinkage ASTM D 2566
Flexural Strength	6,144 psi (42 MPa)	Dielectric Constant ASTM D 150
Hardness	85 Shore D	Flexural Strength ASTM D 790
Solids by Volume	100	
Temperature Resistance	Wet: 140°F (60°C) ; Dry: 300°F (149°C)	
Tensile Strength	4,220 psi (29 MPa)	
Uncured Properties @ 72°F (23°C)	Typical Values	
Color	Dark Grey	
Coverage (1/4" / 6.35 mm)	50 in2/lb (711 cm2/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.
Specific Gravity	18.6 lb/Gal (2.23 g/cm ³)
Recoat Time	4-6 hrs
Specific Volume	12.4 in ³ /lb (0.448 cm ³ /g)

SURFACE PREPARATION

1. Thoroughly clean the surface with a solvent such as Isopropanol Alcohol or Acetone 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 a solvent such as Isopropanol Alcohol or Acetone 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

Shelf life 2 years from manufacture. 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 Polymers & Fluids 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
D11464	4kg kit
D11460	10kg kit

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DISCLAIMER

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