



Wear Resistant Putty (WR-2)

Description: A ceramic-filled epoxy putty with a smooth, low-friction finish.

Intended Use: For repairing flange faces, machine ways, valve seats and bodies, and tracing guides

Features:

- Rebuilds and protects interfacing metal surfaces
- Protects metal from bi-metallic corrosion
- Repairs metals and concrete

Limitations: Suitability of product is determined by the end user for their application and process.
Not recommended for long term exposure to concentrated acids or to organic solvents

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)

Adhesive Tensile Shear
Coefficient of Thermal Expansion (x10-6)
Compressive Strength
Cured Shrinkage
Dielectric Constant
Dielectric Strength
Flexural Strength
Hardness
Modulus of Elasticity
Solids by Volume
Temperature Resistance
Thermal Conductivity (x10-3)

Typical Values

2,200 psi (15.2 MPa)
32 in/in.°F (57.6 cm/cm.°C)
9,800 psi (67.6 MPa)
0.0005 in/in (cm/cm)
6.3
400 volts/mil (16 Kv/mm)
6,500 psi (44.8 MPa)
85 Shore D
7.5 psi x10⁵ (5.2 GPa)
100%
Wet: 130°F (54°C); Dry: 250°F (121°C)
1.67 cal/sec.cm.°C

Standard Tests

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

Uncured Properties @ 72°F (23°C)

Color
Coverage (1/4" / 6.35mm)
Functional Cure
Mix Ratio by Volume
Mix Ratio by Weight
Mixed Viscosity
Pot Life @ 75°F (24°C)
Recoat Time
Specific Gravity
Volume

Dark Grey
56 in2/lb (796.5 cm2/Kg)
16 hrs
4:01
9:01
Putty
45 min.
2-4 hrs
15 lb/Gal (1.8 g/cm3)
13.9 in3/lb (0.502 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 - 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:

Spread mixed material on repair area and work firmly into substrate to ensure maximum surface contact. Wear Resistant Putty (WR-2) 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 Resistant Putty (WR-2) prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Wear Resistant Putty (WR-2) can be troweled up to ¼" (6.35 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 shortens functional cure and pot life.

Storage:

Shelf life 3 yrs from manufacture. See package label. 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	Very good
Cutting Oil	Very good
Gasoline (Unleaded)	Very good
Hydrochloric 10%	Very good
Kerosene	Very good
Methyl Ethyl Ketone	Poor
Methylene Chloride	Poor

Phosphoric 10%	Very good
Potassium Hydroxide 20%	Very good
Sodium Chloride Brine	Very good
Sodium Hydroxide 10%	Very good
Sulfuric 10%	Very good
Sulfuric 50%	Poor
Trisodium Phosphate	Very good
Xylene	Fair

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:

<u>Item No.</u>	<u>Package Size</u>
11410	1 lb. (454 g) kit
11420	3 lb. (1.36 kg) kit

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Disclaimer:

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