



## Wet Surface Repair Putty (UW)

**Description:** Makes (effective) repairs to metal, concrete, wood surfaces in wet and dry environments.

**Intended Use:** Industrial Use: Repairing and refitting pipes, valves, pumps, and tanks. Repair concrete vessels and piping in wet environments. This product will bond to a wet or damp surface.

**Features:**  
**Bonds to aluminum, concrete, and many other metals**  
**Bonds to ferrous and non-ferrous metals**  
**Non-rusting**  
**Bonds to wet surfaces, patches, and seals metals**  
**Non-sagging**

**Limitations:** Suitability of product is determined by the end user for their application and process.

**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<sup>-6</sup>)

Compressive Strength

Cured Shrinkage

Dielectric Constant

Dielectric Strength

Flexural Strength

Hardness

Modulus of Elasticity

Solids by Volume

Temperature Resistance

### Typical Values

2,685 psi (18.5 MPa)

18 in/in.°F (32.4 cm/cm.°C)

5,625 psi (38.8 MPa)

0.0020 in/in (cm/cm)

8.6

150 volts/mil (5.9 kV/mm)

4,990 psi (34.4 MPa)

82 Shore D

7.5 psi x10<sup>5</sup> (5.2 GPa)

100

Wet: 120°F (49°C); Dry: 250°F (121°C)

### Standard Tests

Adhesive Tensile Shear ASTM D 1002

Cure Shrinkage ASTM D 2566

Coef. of Thermal Expansion ASTM D 696

Compressive Strength ASTM D 695

Cured Hardness Shore D ASTM D 2240

Dielectric Strength, volts/mil ASTM D 149

Dielectric Constant ASTM D 150

Flexural Strength ASTM D 790

Modulus of Elasticity ASTM D 638

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

Grey

68 in<sup>2</sup>/lb (967 cm<sup>2</sup>/Kg)

24 hours

1:1

1.4:1

Putty

45 min.

10-12 hours

11.7 lb/Gal (1.4 g/cm<sup>3</sup>)

17 in<sup>3</sup>/lb (0.61 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 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 - 90°F (13 - 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. Underwater Repair Putty fully cures in 24 hours, at which time it can be machined, drilled, or painted

**FOR MAXIMUM PHYSICAL PROPERTIES**

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

**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.

For Underwater or submerged repairs consider the following:

- Remove all dirt, barnacles, flaking paint, and algae/seaweed from the substrate.
- Wipe area with a clean cloth to remove any film on the surface. Obviously, you cannot degrease underwater, but wiping and turning a clean cloth often will remove any film on the surface.
- Abrade the surface if possible. (Use mechanical means or a file to accomplish.)
- The oxidation can be removed by mechanical means, such as water, grit-blasting, or by chemical means.
- Make the repair as soon as possible to avoid surface contamination.

**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)

|                      |           |
|----------------------|-----------|
| Ammonia              | Very good |
| Chlorinated Solvent  | Poor      |
| Hydrochloric 10%     | Fair      |
| Kerosene             | Very good |
| Methanol             | Poor      |
| Sodium Hydroxide 10% | Very good |
| Sulfuric 10%         | Fair      |
| Toluene              | Very good |

**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> |
|-----------------|---------------------|
| 11801           | 1 lb. (454 g) kit   |

**Contacts:**

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