



Ceramic Repair Compound

Description:	A high performance, trowelable, ceramic-filled epoxy for rebuilding worn or damaged equipment.
Intended Use:	Industrial use: To rebuild worn pump casings and suction plates; repair tube sheets, heat exchangers and other circulating water equipment; restore worn chutes and hoppers; repair and rebuild butterfly and gate valves.
Features:	Excellent chemical resistance, Corrosion-, cavitation-, erosion-resistant, Non-sagging putty, creamy paste
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	2,231 psi (15.4 MPa)
Coefficient of Thermal Expansion (x10-6)	24.2 in/in.°F (60.9 cm/cm.°C)
Compressive Strength	10,240 psi (70.6 MPa)
Cured Shrinkage	0.0022 in/in (cm/cm)
Dielectric Constant	4.1 @ 1 MHz
Dielectric Strength	350 volts/mil (13.78 kV/mm)
Flexural Strength	5,870 psi (40.5 MPa)
Hardness	86 Shore D
Solids by Volume	100%
Temp. Resistance	Wet 150°F (65°C); Dry 350°F (177°C)
Thermal Conductivity (x10-3)	1.88 cal/sec.°C.cm

Typical Values**Standard Tests**

Tensile Shear ASTM D1002
Coeff. Of Thermal Exp. ASTM D696
Compressive Strength ASTM D695
Cured Hardness Shore D ASTM D2240
Cured Shrinkage ASTM D2566
Dielectric constant ASTM D150
Dielectric Strength ASTM D149
Flexural Strength ASTM D790
Thermal Conductivity ASTM C177

Uncured Properties @ 72°F (23°C)

Color	Dark Blue
Coverage (1/4" / 6.35mm)	72 in ² /lb (1024 cm ² /kg)
Functional Cure	16 hrs.
Mix Ratio by Volume	3.3:1
Mix Ratio by Weight	4.7:1
Mixed Viscosity	Putty
Pot life @ 75F (24C)	45 min.
Recoat Time	3-5 hours
Specific Gravity	14.1 lb/gal (1.69 g/cm ³)
Specific Volume	17.9 in ³ /lb (1.54 cm ³ /g)
Recommended Thickness	0.25 in (250 mils) / 6.35 mm
Max. Thickness without Sag	0.5 in (500 mils) / 12.7 mm

Surface Preparation:	<ol style="list-style-type: none">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).
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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 40 ppm).

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 to 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.

Homogenous mixing of resin and hardener is essential for the curing and development of stated strengths.

Mixing Instructions:	It is strongly recommended that full units be mixed, as ratios are pre-measured.
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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 at a minimum thickness of ¼" (6.35mm). Work firmly into substrate to ensure maximum surface contact. Ceramic Repair Compound functionally cured 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 Ceramic Repair Compound. prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Ceramic Repair Compound can be troweled up to 1/2" (19 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 lifetimes. Conversely, applying

Can withstand processing forces

Do not drop, shock load, or heavily load

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	Excellent
Aluminum Sulfate 10%	Excellent
Benzene	Excellent
Chlorinated Solvent	Excellent
Gasoline (unleaded)	Excellent
Hydrochloric 10%	Excellent
Kerosene	Excellent
Mineral Spirits	Excellent

Nitric Acid 10%	Poor
Phosphoric 10%	Very good
Potassium Hydroxide 40%	Excellent
Sodium Hydroxide 50%	Excellent
Sodium Hypochlorite	Excellent
Sulfuric 10%	Very good
Sulfuric 50%	Fair
Toluene	Excellent

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:

Item No.	Package Size
11730	32 lb. (14.51 kg)

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Disclaimer:

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