

# Devcon

## Ceramic Repair Putty



### DESCRIPTION

A high performance, Trowel applied, ceramic-filled epoxy for rebuilding worn or damaged equipment

### RECOMMENDED APPLICATIONS

- 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

### PRODUCT DATA

Typical Physical Properties	
Colour	Dark Blue
Mix Ratio By Volume	4.3:1
Mix Ratio by Weight	7.0:1
% Solids by Volume	100
Pot Life @ 25°C	25 minutes
Specific Volume CC/Kg	591
Cured Shrinkage cm/cm	0.002
Specific Gravity	1.69
Temperature Resistance / °C	Wet 65 °C Dry 175°C
Coverage	0.591m <sup>2</sup> /kg & 1mm
Cured Hardness / Shore D	90 D
Dielectric Strength KV/mm	14.5
Adhesive Tensile Shear/MPa	13.75
Compressive Strength MPa	87.5
Coefficient of Thermal Expansion x10 <sup>-6</sup> cm/cm/°C	16
Thickness per Coat / mm	N/A
Functional Cure Time / Hours	16
Recoat Time / Hours	2-4
Mixed Viscosity / cps (where Applicable)	Putty

### PRODUCT DATA

Chemical Resistance 7 Days room temperature cure (30 days) – Testing Carried out 30 days immersion at 24°C	
Ammonia	Excellent
Cutting Oil	Excellent
Ethyl Alcohol	Excellent
Gasoline (unleaded)	Excellent
Hydrochloric Acid 10%	Excellent
Methyl Ethyl Ketone (MEK)	Poor
Methylene Chloride	Poor
Sodium Hypochlorite 5% (bleach)	Excellent
Sodium Hydroxide 10%	Excellent
Sulphuric Acid 10%	Excellent
Xylene	Excellent

Excellent - +/- 1% weight change  
 Very Good - +/- 1-10% weight change  
 Fair - +/- 10-20% weight change  
 Poor - > 20% weight change

### PACK SIZE

- 1Kg

### SHELF LIFE & STORAGE

A shelf life of 2 years from date of manufacture can be expected for this product when stored at room temperature (22°C) in their original containers.



### APPLICATION INFORMATION

#### Surface Preparation

- Use Devcon Fast Cleaner 2000 Spray/Cleaner Blend 300 to degrease the surface
- All surfaces must be roughened, ideally grit blasting (3-16mesh/cm grit size) or by grinding with a coarse wheel or disc. This creates increased surface area and “edges” to lock into and essential for successful application (desired surface profile is 75-100 microns)
- Metal that has been handling sea water or other salt solutions should be grit blasted and high pressure water blasted and left overnight to allow any salts in the metal to ‘sweat’ to the surface. Repeat blasting may be required to ‘sweat out’ all the soluble salts. A test for chloride contamination should be performed prior to any epoxy application. The maximum soluble salts left on the substrate should be no more than 40 part per million.
- Chemical cleaning with Devcon Fast Cleaner 2000 Spray/Cleaner Blend 300 should follow all abrasive preparation. This will help to remove all traces of sandblasting, grit, oil, grease, dust or other foreign substances.
- Under cold working conditions, heating the repair area to 38°C - 43° C immediately before applying any of Devcon's Metal-filled Epoxies is recommended. This procedure dries off any moisture, contamination or solvents and assists the epoxy in achieving maximum adhesion to the substrate.

#### Mixing

It is strongly recommended that full units be mixed, as ratios are pre-measured.

- Add hardener to resin
- 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: 25,30,50 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 homogenous

### APPLICATION INFORMATION

#### Application

Spread mixed material on repair area and work firmly into substrate to ensure maximum surface contact. Ceramic Repair Putty fully cures in 16 hours, at which time it can be machined, drilled, or painted.

#### **FOR BRIDGING LARGE GAPS OR HOLES**

Place fibreglass sheet, expanded metal or mechanical fasteners between repair area and Ceramic Repair Putty prior to application.

#### **FOR VERTICAL SURFACE APPLICATIONS**

Ceramic Repair Putty can be trowel applied up to 13mm (½inch) thick without sagging.

Chemical immersion is possible after 24 hours.

#### **FOR MAXIMUM PHYSICAL PROPERTIES**

Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 93°C.

#### **FOR ± 21°C APPLICATIONS**

Applying epoxy at temperatures below 21°C lengthens functional cure and pot life times.

Conversely, applying above 21°C shortens functional cure and pot life.

### PRECAUTIONS

For complete safety and handling information, please refer to the appropriate Material Safety Data Sheets prior to using this product.

### WARRANTY

ITW Devcon will replace any material found to be defective. As 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. for Product Assistance contact Speccoats