



CERAMIC REPAIR PUTTY PRODUCT BULLETIN

Product Description

A high performance, trowelable, ceramic-filled epoxy for rebuilding worn or damaged equipment.

Features and benefits

- Excellent resistance to corrosion, cavitation, chemicals and erosion
- Vertical or overhead repairs easily done due to non-sag formulation
- Excellent chemical resistance

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

Typical Physical Properties: Cured 7 days @ 24°C	
Colour	Dark Blue
Mixed Viscosity	Putty
% Solids by Volume	100
Cured Density	1.69gm/cc
Cured Shrinkage ASTM D2566	0.0022cm/cm
Specific Volume	592 cm ³ /kg
Pot Life @ 24°C	25 minutes
Compressive Strength ASTM D695	87.6 MPa
Adhesive Tensile Shear ASTM D 1 002	13.8 MPa
Cured Hardness Shore D ASTM D2240	90D
Dielectric Strength, volts/mm, ASTM D149	14567
Coverage cm ² /kg @ 5 mm thick	1184
Temperature Resistance	Wet 65°C Dry 176°C

Chemical Resistance: 7 days room temperature cure (30 days immersion at 24°C)

5% Bleach (Sodium Hypochlorite)	E	10% Phosphoric Acid	VG
5% Trisodium Phosphate	E	40% Phosphoric Acid	F
10% Sulphuric Acid	E	10% Sodium Hydroxide	E
50% Sulphuric Acid	F	50% Sodium Hydroxide	E
10% Hydrochloric Acid	E	5% Alum (Aluminium Sulfate)	E
10% Nitric Acid	VG	Ferric Chloride	E
40% Nitric Acid	F	10% Acetic Acid	U

KEY: E = Excellent VG = Very Good F = Fair U = Unsatisfactory

Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, ASTM #3 oil and propylene glycol. Epoxies are generally not recommended for long term exposure to concentrated acids and organic solvents.

PLEASE CONSULT TECHNICAL SERVICE FOR OTHER CHEMICALS

The information enclosed in this Technical Bulletin is as up to date and correct as possible as at the time of issue. The data provided in this Technical Bulletin should be used as a guide only, as the performance of the product will vary depending on differing operating conditions and application methods.

The sale of any product described in this Technical Bulletin will be in accordance with ITW Polymers & Fluids Conditions of Sale, a copy of which is available on request. To the extent permitted by law, ITW Polymers & Fluids excludes all other warranties in relation to this product.

Surface Preparation

Proper surface preparation is essential to a successful application. The following procedure should be considered:

- First, degrease the surface by using any one of Devcon Cleaner Blend 300, (Stock No 19515). All oil, grease, and dirt must be removed before applying any epoxy material.
- All surfaces must be roughened ideally by grit blasting (8-40 mesh grit), or by grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed. This creates increased surface area for better adhesion. A 75 – 125 micron profile is desired for an application. Do not “feather edge” epoxy material. Epoxy material must be “locked” in by defined edges and a good 75 – 125 micron profile.
- 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 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 p.p.m. (parts per million).
- All abrasive preparation should be followed by chemical cleaning with any of Devcon Cleaner Blend 300. 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 – 43°C immediately before applying any of Devcon’s epoxies is recommended. This procedure dries off any moisture, and assists the epoxy in achieving maximum adhesion to the substrate.
- All prepared surfaces should be repaired as soon possible, to eliminate any changes or surface contaminants.

Mixing: Mix Ratio – Resin to Hardener: Weight. 7:1. Volume 4.3:1

Ceramic Repair System is formulated to be a stiff mix that will not sag when applied on vertical, curved or overhead surfaces. To facilitate mixing, place resin (blue) and hardener (white) on a flat, disposable surface. Using a trowel or wide blade tool, mix Ceramic Repair System thoroughly (about 4 minutes, until colour is uniform and streak-free).

Application

For best results, product should be kept and applied at room temperature. Ceramic Repair System can be applied when temperatures are between 13°C and 32°C. When temperatures are below 21°C, cure and pot life will be longer and above room temperature, cure and pot will be much shorter. After the initial coat, Ceramic Repair System can be applied in multiple coats up to 16mm thick to recontour the original equipment. Recoat time between coats is 2 – 4 hours. Ceramic Repair Putty may be trowled on a vertical surface up to 12 mm thick without sagging.

Cure:

Working time is 25 minutes at 24°C. 75% cure is achieved in 16 hours at room temperature. A 6mm section of Ceramic Repair Putty can be immersed in chemicals after 24 hours. Sections less than 6mm will require a slightly longer cure. For maximum physical properties Ceramic Repair Putty can be heat-cured for 4 hours @ 93°C after curing at room temperature for 2-1/2 hours. Remember, the maximum recoat time between coats is 4-6 hours. This alleviates intercoat adhesion problems.

PRECAUTION

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

Warranty: Devcon 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.

ORDERING INFORMATION

Stock No.	Unit Size
11705	0.5 kg
11700	1.5 kg

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