BRUSHABLE CERAMIC PRODUCT BULLETIN

Product Description

A brushable, high performance ceramic filled epoxy for sealing, protecting and repairing surfaces subject to erosion, corrosion and wear.

Features and benefits

- Low viscosity achieves 100% contact surfaces
- Easily applied using a short bristled brush or roller
- Excellent chemical resistance
- Temperature resistant to 176°C

Recommended Applications

- Seal and protect new equipment exposed to erosion and corrosion
- Protect pump casings, impeller blades, gate valves, water boxes and fan blades
- Rebuild heat exchanges, tube sheets and other water circulating equipment
- Use as a top coat on repaired surfaces to provide an exceptionally smooth surface
- Certified for potable water application

Typical Physical Properties @ 24°C	**Red/Blue**
Mixed viscosity	32,000 cps
% solids by volume	100
Cured density	1.53 gm/cc
Work time at 24°C	40 minutes
Compressive strength ASTM D695	105 MPa
Adhesive tensile shear ASTM D1002	13.8 MPa
Cured hardness, Shore D ASTM D2240	90D
Dielectric strength ASTM D149 (volts/mm)	15,000
Coverage	1.55m^2/kg @ 400 microns
	250-500 microns
Typical brush coat thickness	Wet 65°C
Maximum operating temperature	Dry 176°C

Chemical Resistance: 7 days room temperature cure (30 days immersion @ 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 sulphate)	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

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Preparation

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

- Degrease the surface by using Devcon Cleaner Blend 300. 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 an epoxy application. The maximum soluble salts left on the substrate should be no more than 40 ppm (parts per million).
- All abrasive preparation should be followed by chemical cleaning with 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°C to 43°C immediately before applying Devcon 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 as possible, to eliminate any chance of further surface contaminants.
- Radius all edges to 3mm R and inside corners to 10mm R.

Mixing

Brushable ceramic is formulated to brush easily onto prepared surfaces with a short bristle brush. Add hardener to resin. Mix thoroughly with a broad knife or slow power tool until the consistency is uniform, about 4 minutes. Be sure to mix materials from the bottom and sides of the container. It is strongly recommended that full can units be mixed. If mixing less than full contents, use the following mix ratios.

Red #11760, Blue #11765	Mix ratio by Weight:	5.6 parts resin to 1 part hardener
	Mix ratio by Volume:	3.4 parts resin to 1 part hardener

Application

For best results, Brushable Ceramic should be kept and applied at room temperature. Brushable Ceramic can be applied when temperatures are between 13°C and 32°C. When temperatures are below 21°C, cure and work time will be longer and above room temperature, cure and work time will be shorter. Brushable Ceramic may be used as a coating in combination with Ceramic Repair Putty to provide greater thickness. Recoat times between Ceramic Repair and Brushable Ceramic is 6-16 hours. Maximum field use dry film thickness 1000 microns (1mm).

Cure

Working time of Blue and Red is 40 minutes at 24°C. Brushable Ceramic will achieve a tack free finish approximately 2-3 hours following application. Functional cure is achieved in about 24 hours at 24°C. Functional cure may be accelerated by using heat after the coating has been allowed to harden under ambient conditions. (Material will cure in 4 hours at 65°C). Remember the maximum recoat time between coats is 4-6 hours. This alleviates intercoat adhesion problems. For best results Brushable Ceramic should be applied in 2 applications. Each coat should be 400-500 microns thick. Two coats ensures a pinhole free lining.

PRECAUTION

For complete safe and handling information, please refer to the appropriate Material Safety Data Sheets prior to using this product.
Skin contact – wipe off, flush with soap and water.
Eye contact – Flush with water for 15 minutes and get prompt medical attention.
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
D11760 (Red)	1kg,
D11765 (Blue)	1kg

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Disclaimer

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.

Date last modified June 2011

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