

# Sprayable Ceramic

<b>Description:</b>	A sprayable ceramic reinforced composite that can be sprayed in a manner similar to high solids paints.
<b>Intended Use:</b>	Seal and protect new equipment exposed to erosion and corrosion; protect pump casings, impeller blades, screens, gate valves, water boxes, and fan blades; rebuild heat exchangers, tube sheets, and other water circulating equipment; top coat for providing exceptionally smooth surface to repaired
<b>Product features:</b>	<ul style="list-style-type: none"> <li>• <b>Spray additive added to resin to spray 380 – 500 microns in one pass</b></li> <li>• <b>Able to spray using standard airless equipment</b></li> <li>• <b>Temperature resistance to 176°C</b></li> </ul>
<b>Limitations:</b>	None

**Typical Physical Properties:**

*Technical data should be considered representative or typical only and should not be used for specification purposes.*

**Cured 7 days @ 24°C**

<b>Colour</b>	<b>Blue</b>
<b>Mixed Viscosity</b>	<b>33,600 cP</b>
<b>Flexural Strength</b>	<b>55 MPa</b>
<b>Cured Density</b>	<b>593 cm<sup>3</sup> / kg</b>
<b>Compressive Strength</b>	<b>104.8 MPa</b>
<b>Adhesive Tensile Shear</b>	<b>13.8 MPa</b>
<b>Coverage per 3.8 L kit</b>	<b>10 m<sup>2</sup> @ 400 µm</b>
<b>Cure Time</b>	<b>24 hours</b>
<b>Cured Hardness</b>	<b>87D</b>
<b>Pot Life @ 24°C</b>	<b>40 minutes</b>
<b>Tack free time</b>	<b>4 hours</b>
<b>Minimum Recoat Time</b>	<b>4 - 8 hours</b>
<b>Maximum Recoat Time</b>	<b>16 – 24 hours with light sanding</b>
<b>Solids by Volume %</b>	<b>95</b>
<b>Dielectric Strength</b>	<b>382 V/mil</b>
<b>Temperature Resistance</b>	<b>Wet: 65°C; Dry: 176°C</b>

**TESTS CONDUCTED**

Compressive Strength ASTM D 695  
 Cured Hardness Shore D ASTM D 2240  
 Cure Shrinkage ASTM D 2566  
 Flexural Strength ASTM D 790  
 Thermal Conductivity ASTM C 177  
 Adhesive Tensile Shear ASTM D 1002  
 Dielectric Strength, volts/mil ASTM D 149  
 Coef. of Thermal Expansion ASTM D 696  
 Dielectric Constant ASTM D 150  
 Modulus of Elasticity ASTM D 638

**Surface Preparation:**

1. Radium all edges to 3 mm R and inside corners to 10 mm R.
2. Thoroughly clean the surface with Devcon® Surface Cleaner to remove all oil, grease, and dirt.
3. 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 75 - 125 µm, 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).

4. Clean surface again with Devcon® Surface Cleaner to remove all traces of oil, grease, dust, or other foreign substances from the grit blasting.
5. Coat surface as soon as possible to eliminate any changes or surface contaminants.

**WORKING CONDITIONS:** Ideal application temperature is 13°C to 32°C. In cold working conditions, heat repair area to 38 - 43°C immediately prior to applying epoxy to dry off any moisture, contamination, or solvents, as well as to assist epoxy in achieving maximum adhesion properties.

**Mixing Instructions:**

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

---- Proper homogenous mixing of resin, thinner and hardener at the correct ratio is essential for the curing and development of stated properties. ----

Use a propeller-type Jiffy Mixer Model ES on an electric drill. Mix until colour is uniform and

**Application Instructions:**

consistent.

Note: Keep propeller below liquid line, as additional air can be added to mixture, resulting in air bubbles on the surface of the finished product.

1. Add the Pint (570 mL) container of the sprayable additive to the resin portion of the product. Mix thoroughly for 1 – 3 minutes.
2. Then add the hardener to resin and mix, making sure to scrape sides and bottom thoroughly for 1 – 3 minutes.
3. Make sure spray equipment is ready to go as you working time will be 30 minutes.
  - a. Equipment:  
President Hydra – Spray 226 – 238 Airless.  
Standard airless equipment can be used.  
Spray tip 327 – 427. Note not use filter. This may cause clogging.
  - b. Conditions:  
Airline pressure 550 kPa (80 psi)  
Regulator at the end of the gun 12402 kPa – 16536 kPa (1800 – 2400 psi)  
10 mm fluid line. Warning: When fluid hose begins to get warm (about 30 minutes) stop the diffuser seat, which is located at the end of the gun, just before spray clogs.
  - c. Clean-up:  
Run MEK through lines, followed by Xylene, just as you feel the hose start to get warm.
4. Apply two coats (250 – 500 microns) of Sprayable Ceramic to ensure a lack of pinholes or holidays on the substrate (a low voltage, holiday detector will ensure a pinhole-free coating).

**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.

**Storage:**

Store at room temperature.

**Compliances:**

nil

**Chemical Resistance:**

*Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75° C*

Benzene	Excellent	Sodium Hydroxide 10%	Excellent
Gasoline (Unleaded)	Excellent	Sodium Hydroxide 50%	Excellent
Hydrochloric 10%	Very good	Sodium Hypochlorite	Very good
Kerosene	Excellent	Sulfuric 10%	Very good
Mineral Spirits	Excellent	Sulfuric 50%	Fair
Nitric 50%	Poor	Toluene	Excellent
Phosphoric 10%	Very good	Xylene	Fair
Potassium Hydroxide 40%	Excellent		

**Precautions:**

Please refer to appropriate safety data sheet (SDS) prior to using this product.

**For technical assistance, please call 1800-063-511  
FOR INDUSTRIAL USE ONLY**

**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.

**Disclaimer:**

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Polymers & Fluids and Devcon makes no representations or warranties of any kind concerning this data.

**Order Information:**

DDE108 Blue 3.8 L