



# TECHNICAL DATA

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## CC 4000 (CERAMIC COAT 4000) BRUSHABLE EPOXY CERAMIC COAT

### Product Description

A 100% solids, high performance, high density, ceramic filled, brushable epoxy to seal and protect new or repaired surfaces from cavitation, erosion and wear.

### Features

- Medium viscosity achieve 100% contact with surface.
- Ideal for rebuilding worn areas less than 1/16" deep
- Excellent chemical resistance.
- Dry temperature resistance to 350°F.
- Low chloride content reduces the possibility of corrosion attack and stress cracking.
- Light blue and red colors can be used as contrasting colors for each coat.

### Recommended Uses

- Protect pump casings, impeller blades, gate valves, water boxes and fan blades.
- Rebuild heat exchangers, tube sheets and other circulating water equipment.
- As a topcoat on repaired surfaces to provide an exceptionally smooth surface.
- As a prime coat prior to rebuilding with trowelable systems.
- As a touch-up & repair material for the Protec Series.

### Chemical Resistance

Sodium Hypochlorite 5%	E	Sodium Hydroxide 50%	E
Trisodium Phosphate 5%	E	Aluminum Sulfate 5%	E
Sulfuric Acid 10%	E	Ferric Chloride	E
Sulfuric Acid 50%	E	Acetic Acid 10%	U
Hydrochloric Acid 10%	VG	Water	VG
Nitric Acid 10%	VG	Saturated salt solution	VG
Nitric Acid 40%	U	Leaded Gasoline	VG
Phosphoric Acid 10%	E	Mineral Spirits	VG
Phosphoric Acid 40%	VG	Propylene Glycol	VG
Sodium Hydroxide 10%	E	ASTM #3 oil	VG

E = Excellent VG = Very Good U = Unsatisfactory  
7 day room temperature cure, 30 day immersion @ 75°F.

### Typical Properties

<b>Solids by Volume</b>	100%
<b>Volatile Organic Compounds</b>	0.0 lb/gal (0 g/l)
<b>Theoretical Coverage</b>	1604 ft <sup>2</sup> /gal @ 1 mil
<b>Recommend DFT</b> (typical)	10-20 mils
<b>Number of Coats</b>	2 or more
<b>Mix Ratio</b> (by volume)	1 Hardener : 3.4 Resin
<b>Mixed Viscosity</b>	28000 cps
<b>Shelf Life</b> @ 60-90°F (16-32°C)	Part A 12 months Part B 12 months
<b>Temperature Resistance</b>	350°F (dry)
<b>Color</b>	Light Blue / Red

### Specification Data

<b>Compressive Strength</b> ASTM D 695	12000 psi
<b>Abrasion Resistance</b> ASTM D 4060 CS 17 wheel – 1000g/1000 cycles	15 mg loss
<b>Adhesive Tensile Shear</b> ASTM D 1002	2300 psi
<b>Cured Hardness</b> ASTM D 2240	90 Shore D
<b>Dielectric Strength</b> ASTM D 149	382 volts/mil

### Ordering Information

<b>Packaging:</b>	1 gal & 4 gal kits
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# APPLICATION INFORMATION

## CC 4000

### Surface Preparation

Remove all oil, grease or other contaminants from the surface to be coated in accordance with SSPC-SP 1.

**Preferred:** Abrasive blast to a White Metal Blast in accordance with SSPC-SP 5 and obtain a 2-4 mil (50-100 μ) angular anchor pattern.

**Note:** For equipment that has been handling sea water or other salt solutions a test for chloride contamination should be performed prior to application. If chlorides are present at 40 ppm or greater the substrate shall be re-cleaned until the chlorides are less than 40 ppm.

### Mixing

Material is formulated to be easily brush or roll onto prepared surfaces using a short bristle brush or roller.

Add 1 part hardener to 3.4 parts resin and power mix thoroughly for about 4 minutes or until a uniform consistency is achieved, being careful to mix material from bottom and sides of the container.

It is strongly recommended that only full kits be mixed. If less than full kits use the following ratio by volume: 1 part hardener to 3.4 parts resin

### Thinning

Thinning not required for brush application.

For spray application maybe thinned up to 10% with MEK Thinner.

Note: The addition of thinner will inhibit cure, allow additional time between coats.

### Pot Life

Material Temperature	Time
75°F (24°C)	45 minutes

### Application Conditions

	Normal	Minimum	Maximum
<b>Material</b>	75-90°F (24-32°C)	55°F (13°C)	90°F (32°C)
<b>Surface</b>	75-90°F (24-32°C)	55°F (13°C)	90°F (32°C)
<b>Ambient</b>	75-90°F (24-32°C)	55°F (10°C)	90°F (32°C)
<b>Humidity</b>	30-50%	0%	85%

- Surface temperature must be 5°F (3°C) above the dew point.

### Application

**Brush / Roller:** use a short bristle brush or roller in a minimum of 2 coats to achieved desired thickness.

**Airless:**

<b>Pump Ratio</b>	45:1 min	<b>Tip Size</b>	.018-.020"
<b>Material Hose*</b>	3/8" ID min 100' max	<b>Tip Pressure psi</b>	2500-2800

Use MEK or similar solvent for clean up.

### Cure Time

These times are based on a 30-50% RH. Excessive film thickness, cooler temperatures or inadequate ventilation will require longer cure times and could result in premature failure.

#### Surface Temperature

	50°F	60°F	70°F	80°F	90°F	100°F
<b>Tack Free</b>	9 hours	6 hours	3 hours	2 hours	1 hour	1 hour
<b>Recoat (min)</b>	10 hours	5 hours	4 hours	3 hours	2 hours	1.5 hours
<b>Recoat (max)</b>	38 hours	32 hours	20 hours	14 hours	10 hours	8 hours
<b>Full cure Light Load</b>	56 hours	32 hours	20 hours	14 hours	10 hours	8 hours
<b>Non-Chemical Service</b>	4 days	48 hours	36 hours	24 hours	18 hours	12 hours
<b>Chemical Immersion</b>	12 days	8 days	6 days	4 days	3 days	2 days

- If the material has exceeded its maximum recoat time or full cure time contact ITW Futura Coatings for recommended recoating procedures.
- Curing can be accelerated by using heat after the coating has been allowed to harden under ambient conditions. At 150°F material will cure in 4 hours.
- Holiday testing per NACE RP0199-98 should be conducted for all coatings going into immersion service. Use a setting of 100 volts/mil. All pinholes must be marked and repaired.

### Safety Information

- Read the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- Do not apply material in enclosed areas without adequate air exchange and ventilation.
- All application personnel must use respirators rated for organic vapors, or in confined spaces wear fresh air respirators or fresh air hoods.
- Wear protective clothing, gloves and eye protection.
- Breathing fumes or contact with the skin may cause severe allergic reactions.
- **This product is intended for industrial use by properly trained professional applicators only.**

### Storage Conditions

- Coatings need to be protected from moisture contamination. Store drums and pails in a dry location at 55-90°F (13-32°C).
- Materials **must** be kept above 55°F (13°C).

**ITW FUTURA COATINGS, 1685 GALT INDUSTRIAL BLVD., ST LOUIS, MO, (314) 733-1110**

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