



# TECHNICAL DATA

Revised Date: 01/2008  
Replaces Date: 04/2007

## PROTEC<sup>®</sup> II PW (20044) POTABLE WATER TANK & PIPE LINING

### Product Description

100% solids, direct to metal, fast-set, two component urethane certified per ANSI/NSF Standard 61 for use as a lining in potable water tanks and pipes. It provides a very hard, tough surface with outstanding adhesion and impact resistance. Requires plural component, heated application equipment.

### Features

- Complies with NSF/ANSI Standard 61.
- Meets FDA 21CFR 175.300 for food contact.
- Meets AWWA C-222 requirements.
- Zero VOC.
- No taste or odor concerns caused by entrapped solvents.
- Convenient 1:1 mix ratio.
- Unlimited film build with single multi-pass coats.
- Excellent adhesion directly to steel and ductile iron.
- Fast curing for increased productivity and short turn around times.

### Recommended Uses

As a one or two coat direct to metal lining system for steel potable water tanks and pipes to comply with NSF/ANSI Standard 61 and AWWA C-222 parameters.

### Primers

**Steel:** None.

**Other:** Contact ITW Futura Coatings for recommendations.

### 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> @ 1 mil (3.8 m <sup>2</sup> @ 1 mm)
<b>Recommend DFT</b> (Typical)	15 – 100 mils (0.4 – 1.3 mm)
<b>Number of Coats</b>	1 or more
<b>Mix Ratio</b> (by volume)	1”A” : 1”B”
<b>Flash Point</b> (PMCC) <i>Mixed</i>	311°F (168°C)
<b>Shelf Life</b> @ 60-90°F (16-32°C)	Part A 12 months Part B 12 months
<b>Color</b>	White

### Specification Data

<b>Elongation</b> – ASTM D 412	< 10%
<b>Adhesion</b> – ASTM D 4541	>2500 psi
<b>Abrasion Resistance</b> ASTM D 4060 CS 17 wheel, 1000g, 1000 cycles	45 mg loss
<b>Tensile Strength</b> ASTM D 412	4000 psi
<b>Impact Resistance</b> ASTM G 14 – 15 mm ball	125.4 in-lbs (1447 cm/kg)
<b>Hardness</b> – ASTM D 2240	75 Shore “D”
<b>Flexibility</b> 180° Bend over 4” mandrel 90° Bend over 4” mandrel	Pass – 30 mils @ 75°F Pass – 30 mils @ -40°F
<b>Permeability</b> – ASTM E 96 (60 mil dry film thickness)	0.0078 U.S. perms 0.0113 metric perms
<b>Accelerated Weathering</b> ASTM G 23 – Q/UV, 2500 hrs	No cracking, checking or loss of flexibility; slight chalking.
<b>Cathodic Disbondment</b> ASTM G 95 – Average Radius	30 days @ 75°F    7 mm 14 days @ 149°F    8 mm

### Ordering Information

<b>Packaging:</b>	10 gal & 110 gal kits
<b>Shipping Weight:</b>	10.5 lb/gal (4.7 kg/gal)

# APPLICATION INFORMATION PROTEC II PW

### Surface Preparation

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

**Steel and Cast Iron:**

**Immersion and Non-Immersion:** Abrasive blast to a Near White Blast in accordance with SSPC-SP 10 and obtain a 3-4 mil (75-100μ) angular anchor pattern.

**Other:** Contact ITW Futura Coatings for specific recommendations.

### Mixing

Power mix "B" component thoroughly for 15 to 20 minutes to a uniform consistency, "A" component does not require mixing.

**DO NOT BATCH MIX.**

### Thinning

**DO NOT THIN**

### Pot Life

Material Temperature	Time
50-100°F (10-38°C)	< 30 seconds

### Application Conditions

	Normal	Minimum	Maximum
<b>Material*</b>	135-150°F (57-65°C)	130°F (54°C)	170°F (77°C)
<b>Surface</b>	75-90°F (24-32°C)	45°F (7°C)	120°F (49°C)
<b>Ambient</b>	75-90°F (24-32°C)	35°F (2°C)	120°F (49°C)
<b>Humidity</b>	30-50%	0%	85%

\*Materials must be preheated to 75-90°F (24-32°C) min prior to use. Surface temperature must be 5°F (3°C) above the dew point.

### Application Equipment

**Heated Plural Component Airless (only)**

Applicator training is required and spray equipment must be approved by ITW Futura Coatings Technical Service.

- 1:1 ratio capable of producing a minimum delivery rate of 1¼ gallons per minute at a tip pressure of 2500-3000 psi.
- Proportioner heaters and heated hose capable of maintaining material temperatures of 135-150°F (57-65°C) at the spray tip.
- Drum heaters capable of maintaining material temperatures of 75-90°F (24-32°C) during application
- 2:1 ratio transfer pumps minimum.
- Contact ITW Futura Coatings for specific information.

### Clean Up

Use MEK or a 1:1 blend of MEK and Toluol.

### Cure Time

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

#### Surface Temperature

	50-69°F (10-21°C)	70-89°F (21-32°C)	90-110°F (32-43°C)
<b>Surface dry</b>	4-10 minutes	3-4 minutes	½-2 minutes
<b>Hard Film</b>	10-20 minutes	5-10 minutes	5 minutes
<b>Recoat (min)</b>	4-10 minutes	3-4 minutes	½-2 minutes
<b>Recoat (max)</b>	4 hours	2 hours	30 minutes
<b>Full cure</b>	3 days	2 days	24 hours

- If the maximum recoat time has been exceeded contact ITW Futura Coatings for recommended recoat procedure.
- Holiday testing per NACE RP0188-98 can be started once the cure time shown for "Hard Film" has been achieved.

### Repair

- ITW Futura Coatings recommends that repairs or touch-up be completed using **Protec II PW**.
- **Pipemate PW** is the recommended repair material when plural component spray equipment is not available.
- Contact ITW Futura Coatings for specific information.

### 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 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

- Urethane coatings need to be protected from moisture contamination. Store drums and pails in a dry location at 60-90°F (16-32°C).
- Drums must be kept sealed at all times with a positive feed dry air, nitrogen blanket or desiccant cartridge system.
- Materials must be kept above **50°F (10°C)**.

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

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