

PROTAL 7700™

Fast Cure, High Build Pipeline Coating

Description

Protal 7700 is a 100% solids, VOC free, two-part epoxy. It is specially formulated with "state of the art" chemistry with no nonylphenol. It also has superior adhesion, gouge, impact and abrasion properties.

Uses

On-site protection of girth welds, tie-ins, welds for boring applications, repairs to FBE, push-rack applications, station piping, fittings and fabrication. Also used for main line pipe coating, sacrificial coating for directional drill (ARO) and road bore pipe, and rehabilitation of existing pipelines.

Features

- Fast touch dry and set times
- High temperature resistance up to 203°F (95°C)
- High build (up to 70 mils / 1778 microns in one coat)
- Excellent adhesion (compliments FBE coated pipe)
- High abrasion resistance for drilling applications
- Can be used as an abrasion resistant coating (ARO)
- Safe and environmentally friendly
- Does not shield cathodic protection
- Can be applied with brush, roller or spray
- Available in a variety of packaging options
- Outstanding self-leveling characteristics
- CSA Z245.30 compliant

Application

Brush: Prepare surfaces by grit blasting to a clean near-white finish, SSPC-SP 10 / NACE No. 2. Appropriate angular grit shall be used to achieve a 2.5 to 5 mil (63 to 127 microns) anchor profile. Initially stir the base and hardener. Add the hardener to base and mix at a slow speed until a constant colour is achieved making sure all sides of container are scraped. Apply mixed material onto surface and brush, trowel or roll to required thickness. A wet-film thickness gauge shall be used to measure thickness. If surface temperature falls below 50°F (10°C), surface should be preheated to achieve faster cure. Preheat may be achieved with a propane torch or induction coil. Resin and hardener component shall be kept warm, at a minimum of 60°F (15°C), to mix more easily.

Spray: Prepare surfaces by grit blasting to a clean near-white finish, SSPC-SP 10/ NACE No. 2. Appropriate angular grit shall be used to achieve a 2.5 to 5 mil (63 to 127 microns) anchor profile. The equipment shall be designed to mix and atomise 100% solids epoxies. A mastic gun with a 19 to 27 thou tip is recommended. Please refer to the Protal 7700 Plural Spray Application Specification for equipment details. Part A should be heated to 140°F - 167°F (60°C - 75°C) and Part B heated to 110°F - 131°F (45°C - 55°C). Hose bundle shall be set at 140°F - 150°F (60°C - 65°C). A wet on wet spray technique should be used to achieve a minimum thickness of 20 mils (508 microns). The coating thickness should be measured using a wet-film thickness gauge. The equipment settings are only guidelines and may vary based on equipment.

For complete application instructions please refer to the Protal 7700 Application Specifications.



Protal 7700™

TECHNICAL DATA

PROPERTIES	VALUE
Solids Content	100%
Mixed Material - (Mixed) @ 77°F (25°C)	
Viscosity	40,300 cP
Colour	Dark Green
Mixing Ratio (A/B) by Volume	3 Parts Base: 1 Part Hardener
Cure Times	
Pot Life @ 77°F (25°C)	16 - 19 Minutes
Pot Life @ 97°F (36°C)	8 - 9 Minutes
Handling Time @ 77°F (25°C) Shore D 70 min.	2.7 - 3.2 Hours
Handling Time @ 117°F (47°C) Shore D 70 min.	1.1 Hours
Handling Time @ 157°F (69°C) Shore D 70 min.	24 Minutes
Recoat Window	
@ 57°F (14°C)	5.25 Hours
@ 77°F (25°C)	2.25 Hours
@ 97°F (36°C)	1.25 Hour
Theoretical Coverage	14 ft ² /30 mils/liter (1.301 m ² /762 microns/liter)
Thickness - Weld Joints / FBE Repairs	
Minimum/Maximum	20/70 mils (508/1778 microns)
Recommended	25/35 mils (635/876 microns)
Thickness - Bore Pipe	
Minimum/Maximum	40/70 mils (1016/1778 microns)
Recommended	45/60 mils (1143/1524 microns)
Shore D Hardness (ASTM D2240)	Shore D 80 +
Impact Resistance (CSA Z245.20-14)	
Temp. -22°F (-30°C) @ 3.0 joules	Pass – no holiday
Temp. 32°F (0°C) @ 3.0 joules	Pass – no holiday
Temp. 73°F (23°C) @ 3.0 joules	Pass – no holiday
Flexibility (CSA Z245.20-14)	
Temp. -22°F (-30°C) @ 3.0 joules	Pass – no holiday
Temp. 32°F (0°C) @ 3.0 joules	Pass – no holiday
Temp. 73°F (23°C) @ 3.0 joules	Pass – no holiday
Holiday Detection	Refer to NACE SPO188
Cathodic Disbondment Test (ASTM G95)	
24 hours at 150°F (65°C) @ -3.5 volts	4.0 mm
28 days at 73°F (23°C) @ -1.5 volts	4.3 mm
28 days at 150°F (65°C) @ -1.5 volts	8.1 mm
28 days at 203°F (95°C) @ -1.5 volts	7.0 mm
Tabor Abrasion (ASTM D4060-14)	
1000 cycles, 1000 gram load	58.8 mg weight loss
Gouge Test (CSA Z245.20-14)	
40 kg load, Smooth Blank Bit	32.4 penetration depth (%)
40 kg load, R-33 double-Cut Burr	40.7 penetration depth (%)
50 kg load, Smooth Blank Bit	43.1 penetration depth (%)
50 kg load, R-33 double-Cut Burr	51.7 penetration depth (%)
Pull-Off Adhesion (ASTM D4541-09)	
Direct to Steel	4511 psi
Over FBE	5113 psi
Service Temperature	-40°F to 203°F (-40°C to 95°C)
Application Temperature	-30°F to 212°F (-34°C to 100°C)

STORAGE: Minimum 24 months when stored in original containers @ 40°F (4°C) to 105°F (41°C). On job site where temperatures are below 50°F (10°C) product should be kept warm to mix properly (65°F to 85°F optimal).

CLEANING: Clean equipment with Xylene, MEK, Acetone or equivalent solvent cleaner.

HEALTH AND SAFETY: Wear protective clothing and ensure adequate ventilation. Avoid contact with skin and eyes. See material safety data sheet for further information.

PACKAGING: 1, 1.5 and 2 liter kits and 75 liter & 800 liter kits standard. Dual cartridge repair tubes (50 mL & 1000 mL) and dispensing guns available for small repair areas.

The information given on this sheet is intended as a general guide only and should not be used for specification purposes. We believe the information to be accurate and reliable but do not guarantee it. We assume no responsibility for the use of this information. Users must, by their own tests, determine the suitability of the products and information supplied by us for their own particular purposes. No patent liability can be assumed.



DENSO (AUSTRALIA) PTY LTD

77-95 National Boulevard
Campbellfield, VIC 3061
Tel: +61 3 9356 7600
Fax: +61 3 9356 7699
www.densoaustralia.com.au

A Member of Winn & Coales International