

## PROTAL™ ARO

### Abrasion Resistant Pipeline Coating

#### Description

Protal ARO is a VOC free, 100% solids liquid epoxy coating formulated to be applied over FBE as an ARO coating (abrasion resistant overlay). It is a 3:1 ratio coating that can be spray or hand applied in the shop or field.

#### Uses

Used to protect FBE mainline coatings for directional drilling, bores, river crossings and other rough terrain applications. Protal ARO can be used to provide additional protection to the coating on bends, fittings and fabrication when severe handling or rough terrain persist. The coating should not be applied direct to steel.

#### Features

- Excellent gouge and abrasion resistance
- Fast touch dry and set times
- High temperature resistance (up to 150°F / 65°C)
- High build (up to 50 mils in one coat)
- Excellent adhesion to FBE and Protal 7200
- Safe and environmentally friendly
- Does not shield cathodic protection
- Can be applied by brush, roller or spray

#### Application

**Brush:** Prepare FBE coating with a light sweep blast to remove gloss and roughen surface (approx. 1 mil). After sweep blast wipe entire surface with MEK or approved solvent to remove all dust and other surface contamination. Add the hardener to base and mix at a slow speed until a constant color is achieved making sure all sides of container are scraped. Pour mixed material onto surface and brush, trowel or roll to required mil thickness. A wet-film thickness gauge shall be used to measure mil 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 easily.

**Spray:** Prepare FBE coating with a light sweep blast to remove gloss and roughen surface (approx. 1 mil). After sweep blast wipe entire surface with MEK or approved solvent to remove all dust and other surface contamination. The equipment should be a plural component airless spray unit with a proportioning pump capable of a volume mixing ratio of 3:1. Standard ancillary equipment should include minimum 10 gallon hoppers, 2 ea. static mixers, 25 ft. (7.6 m) max x 1/4" (6.4 mm) whip hose, and mastic gun with a 21 to 35 thou tip. (Applicator should consult with Denso regarding recommended equipment). Part A should be heated to 150°F -160°F (65°C - 71°C) and Part B heated to 150°F -160°F (65°C - 71°C). Hose bundle shall be set at 135°F - 145°F (57°C - 63°C). A wet-on-wet spray technique should be used to achieve a minimum thickness of 30 mils (750 microns). The coating thickness should be measured using a wet-film thickness gauge.

For complete application instructions, please refer to the Protal ARO Brush or Spray Application Specifications.



# Protal™ ARO

## TECHNICAL DATA

PROPERTIES	VALUE
<b>Solids Content</b>	100%
<b>Base Component - (Unmixed) @ 77°F (25°C)</b>	
Specific Gravity	1.76
Viscosity	41,000 cps
Color	Red
<b>Hardener - (Unmixed) @ 77°F (25°C)</b>	
Specific Gravity	1.62
Viscosity	34,500 cps
Color	Black
<b>Mixed Material - (Mixed) @ 77°F (25°C)</b>	
Specific Gravity	1.72
Viscosity	40,000 cps
Color	Brick Red
<b>Mixing Ratio (A/B) by Volume</b>	3 Parts Base:1 Part Hardener
<b>Cure Times</b>	
Gel Time @ 77°F (25°C)	30 Minutes
Handling Time @ 77°F (25°C)	4 Hours
<b>Theoretical Coverage</b>	14 ft <sup>2</sup> /30 mils/liter (1.301 m <sup>2</sup> /762 microns/liter)
<b>Holiday Detection</b>	Refer to NACE SPO188
<b>Recommended Thickness</b>	30 to 60 mils (762 - 1254 microns)
<b>Hardness (Shore D)</b>	85
<b>Adhesion to FBE (ASTM D 4541-02)</b>	2500 psi (17.25 MPa)
<b>Gouge Resistance (Partech Method - 50 kg)</b>	10.4 mils (264 microns) depth - pass holiday detection at 67.5 VDC
<b>Abrasion Resistance (ASTM D 4060-01)</b>	
1000 cycles CS-17	99 mg
<b>Maximum Operating Temperature</b>	150°F (65°C)

Not designed for direct to steel applications.

**STORAGE:** Minimum 24 months when stored in original containers @ 40°F (4°C) to 100°F (36°C). On job site where temperatures are below 60°F (15°C) product should be kept warm to mix properly.

**CLEANING:** Clean equipment with MEK 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, 75 & 800 liter kits standard.



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