

**POWERCRETE® ARO-UV**

**Product Information**

**Product description:** Powercrete® ARO-UV is a cold-applied polyester resin prepreg E-Glass reinforced mechanical wrap, mainly used for directional drilling, thrust (slick) bore and pull-through applications to protect 3-LPE linepipe coatings. Powercrete® ARO-UV has excellent mechanical properties and is applied by simply wrapping the material onto the substrate without abrasive blasting and the common used plural spray equipment. After curing the Powercrete® ARO-UV forms a tough and durable mechanical composite system.

**Features:**

- Excellent mechanical properties
- Manual applied system for directional drill and thrust bore applications
- Can be applied on 3LPE, but also on FBE, EP, hard-shell insulation etc.
- Can be exposed to rain, after application of Tension Tape
- Very good chemical and UV resistant
- Fast, easy and clean installation
- Can be applied at low temperatures (>5°C/41°F).
- Suitable for pipeline operating temperatures from -165 up to 90°C (-265 up to 194°F)
- Cures by sunlight and artificial UV-A light sources
- Can be simply hand applied in multiple layers if required

**Application examples**

**Application:** hand-applied UV-curing ARO coating system on top of 3LPE, FBE and standard epoxies etc. for directional- and thrust (slick) bore drilling applications and other pipeline sections, such as bends, tees, valves, flanges, hard shell insulation, etc. with severe abrasive and impact pipeline applications. .

**Product Performance (processing under laboratory conditions)**

	Test Method	Typical Value
Density	ISO 1183	1.85 g/cm <sup>3</sup>
Heat Distortion Temperature	ISO 75	>220°C
Elongation at Break	ISO 527-4	1.7%
Impact Resistance	ISO 179	57 kJ/m <sup>2</sup>
Tensile Strength	ISO 527-4	65 MPa
Tensile Modulus	ISO 527-4	9 GPa
Flexural Strength	ISO 14125	150 MPa
Flexural Modulus	ISO 14125	9 GPa
Compressive Strength	ISO 14126	150 MPa
Compressive Modulus	ISO 14126	14GPa
Water Vapour Permeability	ASTM E96	-.001 metric perms
Hardness	ASTM D2580	>60 Barcoll

**General Product Information**

Colour	Yellowish or purple (others on request).
Finish	Gloss
Primer	Self-priming
Dry Film Thickness	68-136mils (1700-3400micron), one or two layers* *For drilling activities: 10% of the pipe length must have two layers of total 3400micron DFT, measured from the bore-head
Coverage Rate (theoretical)	1m <sup>2</sup> at 1700micron DFT for one layer and 0,5m <sup>2</sup> at 3400micron DFT for two layers.
Mixing Ratio	NR
Potlife	NR

**Application Instruction: Surface Preparation General**

<b>General</b>	The area to be coated has to be clean, dry and free from oil, grease and dust. All contamination that could interfere with the adhesion of the coating has to be removed according to SSPC-SP1.
<b>Preventing condensation on the substrate</b>	Prior and during the surface preparation, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.

**Application Safety**

<b>General</b>	Read the Product Data Sheet and follow the caution statements on the Material Safety Data Sheet . Personnel who will come into contact with the product should be using appropriate protection equipment. Follow national safety guidelines.
----------------	--

**Application Conditions**

	Product	Surface	Ambient	Humidity
<b>Optimum</b>	70-90°F (21-32°C)	70-90°F (21-32°C)	70-90°F (21-32°C)	25-50%
<b>Minimum</b>	41°F (5°C)	41°F (5°C)	41°F (5°C)	0%
<b>Maximum</b>	120°F (49°C)	140°F (60°C)	120°F (49°C)	85%

Although Powercrete® ARO-UV is curing by UV, higher product and ambient temperature will accelerate curing.

**Application Instruction: Manual**

<b>Step 1</b>	The required tools are good quality scissors, cutting-knives, measuring tape, a flat table to cut the prepreg, Tension Tape, UV-A lamps and reflective mirrors (when needed) and a portable tent for field applications.
<b>Step 2</b>	Take the roll Powercrete® ARO-UV out of the original packaging and pre-cut the required length, inclusive a minimum 50mm overlap. Immediately after cutting, the pre-cut material and the master roll, should be covered by the original black foil to avoid starting product cure.
<b>Step 3</b>	Leave the inner-and outer release liner on the product and wrap the Powercrete® ARO-UV around the pipe by the cigarette-wrap method and check the overlap and check if the wrap is rectangular. Leave the wrap on the substrate and pull-back approx. 70mm. of the inner (blue) release liner and stick the material onto the pipe substrate. Do not remove the entire inner release liner yet.
<b>Step 4</b>	When the wrap is adhering to the pipe substrate, simply remove the inner release liner during wrapping the Powercrete® ARO-UV around the pipe.
<b>Step 5</b>	On the overlap area, pull-back approx. 70mm. of the outer release liner (transparent) and apply the Powercrete® ARO-UV wrap on the overlap. Bend back the outer release liner.
<b>Step 6</b>	Remove approx. 70mm. of the outer release liner, simply by tearing-off the liner and apply another wrap, side-by-side with a minimum 50mm. overlap.
<b>Step 7</b>	Apply transparent Tension Tape on top of the outer release liner with a 50% overlap. <b>Note:</b> When applying two layers, you apply a second layer on top of the first layer. This must done wet in wet. Alternate the overlaps. Remove the outer release liner from the first layer. The Tension Tape must be applied on top of the second layer.

#### Curing Times at 25°C (77°F)

Powercrete<sup>®</sup> ARO-UV will cure by sunlight. When natural sunlight is not sufficient, UV-A lamps and reflective mirrors should be used. Do not look into UV light lamps without adequate eye protection. Curing can be checked with the help of a Barcol Hardness tester.

#### Inspection and Repair

<b>Inspection</b>	The finished coating must be visually inspected for any defects, such as minimum overlap and air entrapment. Pinhole/Holiday detection must be generated according to NACE SP0188.
<b>Coating Thickness</b>	The coating thickness (DFT) must be within the specified DFT range. Use calibrated equipment and measure according to SSPC-PA 2 or other specified standard.
<b>Repair</b>	Pinholes/Holidays must be located and repaired with approved material. Consult Powercrete <sup>®</sup> for specific information. Retest the repaired area.

#### Cleaning

**Cleanup** Use Acetone or MEK.

#### Handling

**General** Transport and stacking is possible after full cure of the coating and generating a Holiday test (NACE SP0188). This time can be reduced by increasing the curing temperature. Consult Powercrete<sup>®</sup> for specific information.

#### General Order Information

<b>Product</b>	<b>Powercrete<sup>®</sup> ARO-UV</b> <u>Product dimensions and contents:</u>
<b>Kit Options</b>	1m. x 10m, 1 roll/box. (30 kg/roll)
<b>Handling</b>	Handle with care. To avoid premature curing of the product, exposure to sunlight must be avoided. Keep material in the original box as far as possible.
<b>Storage</b>	Store indoor, clean and dry, away from direct sunlight in a cool place between 18-30°C (65-85°F). Keep from freezing. Shelf life 12 months in the original unopened containers.

#### Additional Information

<b>Documentation</b>	Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending email to <a href="mailto:info@sealforlife.com">info@sealforlife.com</a>
<b>Certified staff</b>	Application of the described coating system should be carried out and inspected by certified personnel.