



Unique Polymer Systems

ADVANCED POLYMER SURFACE ENGINEERING TECHNOLOGY

Unique Polymer Systems – Super Low Friction Efficiency Coating



Unique Polymer Systems 'Super Low Friction Efficiency Coating' is a high performance solvent free coating designed for use as a resurfacing and lining system to improve the efficiency in fluid flow environments

Unique Polymer Systems 'Super Low Friction Efficiency Coating' is based on a specifically selected blend of epoxy resins and non toxic polyamino curing agents reinforced with carbide and inert flow enhancing pigments which produces a system with optimum physical and mechanical strengths and excellent resistance to erosion and corrosion.

Unique Polymer Systems 'Super Low Friction Efficiency Coating' is simple, safe and easy to use and its excellent low friction surface improves flow rates in pumps and pipelines which makes it an ideal choice for the protection of waterboxes, tube sheets, pumps, impellers, valves and heat exchangers.

SURFACE PREPARATION

Heavy contamination due to oil or grease must be removed using with UPS 'Cleaner'. Surfaces to be coated should then be abrasive blast cleaned to a minimum Sa2½ BS7079 Part A1 : 1989/ISO 850-1: 1988 to give medium blast profile as defined by BS 7079: Part C3 1989/ISO 85031 1988.

Equipment which has become salt impregnated due to service conditions should, first be wet blasted then dry abrasive blasted and checked for presence of salts. This process should be repeated until the salts are removed.

Alternatively, surfaces should be warmed with a blow torch or heat gun to bring salts up to the surface. The surface should once again be blast cleaned. This process must be repeated until no further sweating of impregnated salts is evident.

Care should be taken on pitted surfaces to ensure that all contamination is removed from the bottom.

MIXING

Unique Polymer Systems 'Super Low Friction Efficiency Coating' is a two component product supplied as a resin component and an hardener component which must be mixed together immediately prior to use.

Stir the contents of the base component, continue stirring and gradually add the total contents of the activator container, stir the combined mix until completely homogeneous.

The mixed material must be used within 45 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

APPLICATION

Application should not be carried out when air and substrate temperatures are below 7°C nor when relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.

Unique Polymer Systems 'Super Low Friction Efficiency Coating' can be applied by brush or roller, with brush application being preferred for the first coat of a two coat application. Good quality brushes or short to medium pile roller should be used.

Unique Polymer Systems 'Super Low Friction Efficiency Coating' should be worked into the surface to ensure complete wetting of the surface. On deeply pitted surfaces, care should be taken to avoid air entrapment in the pitted areas.

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Best application results are obtained with a minimum substrate temperature of 15°C with 20°C being the ideal temperature.

All equipment must be cleaned IMMEDIATELY after use with **Unique Polymer Systems 'Cleaner'**.

Theoretical Coverage Rate

2.7m²/kilo at 250 microns dft (29 ft²/kilo at 10 mils dft)

Recommended Film Thickness

| | |
|-----|-----------------------|
| Wet | 250 microns (10 mils) |
| Dry | 250 microns (10 mils) |

Normally applied as a two coat system to achieve a nominal film thickness of 500 microns.

PHYSICAL CONSTANTS

| | | | |
|--------------|-------|----------|-----------|
| Mixing Ratio | Resin | Hardener | |
| | 2 | 1 | By volume |
| | 4 | 1 | By weight |

| | | |
|------------|----------|-----------------------------|
| Appearance | Resin | Thixotropic Coloured Liquid |
| | Hardener | Clear Liquid |

Drying & Cure times at 20°C (68°F)

| | |
|---------------------|------------|
| Usable Life | 45 minutes |
| Touch Dry | 6 hours |
| Minimum Overcoating | 6 hours |
| Maximum Overcoating | 48 Hours |
| Full Cure | 7 days |

| | |
|---------------------|---|
| Volume Solids | 100% |
| V.O.C. | Nil |
| Shelf Life | Use within 5 years of purchase. |
| temperatures | Store in original sealed containers at between 5°C (40°F) and 30°C (86°F). |

Operating Temperature

| | | |
|----------|----------------|-------------------|
| | Maximum | Continuous |
| Dry Heat | 150°C (300°F) | 120°C (248°F) |
| Wet Heat | 80°C (175°F) | 60° (140°F) |

Potable Water **Water Regulations Advisory Scheme -Approved Product**

FOR FURTHER INFORMATION PLEASE CONTACT



Food Contact

Meets USDA requirements for incidental food contact.

Meets FDA requirements CFR 21.175.300 for food contact

PHYSICAL PROPERTIES

ASTM D4060

Shore D Hardness 85

Tensile Shear Adhesion 175 kg per cm² (2500 psi)
(Grit Blasted Steel)

Corrosion Resistance Excellent, unaffected after
ASTM B117 10,000 hours exposure

Flexural Strength 570 kg/cm² (8100 psi)

ASTM D790

Compressive Strength 700 kg/cm² (10000 psi)

ASTM D695

Impact Resistance 40 Joules (355 in lbs)

ASTM D256

HEALTH AND SAFETY

As long as normal good practice is observed **Unique Polymer Systems 'Super Low Friction Efficiency Coating'** can be safely used.

Protective gloves should be worn during use.

A fully detailed **Material Safety Data Sheet** is either included with the material or is available on request.

PACKAGING

Supplied in 1kg packs.

The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests.



Unique Polymer Systems

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