

ProTXcoat 103E

Two Component Ceramic Reinforced Efficiency Coating

103E is a high performance solvent free coating designed for use as a resurfacing and lining system to improve the efficiency in fluid flow environments.

103E is based on a specifically selected blend of epoxy resins and nontoxic polyamine 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.

103E 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

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

SURFACE PREPARATION

Heavy contamination due to oil or grease must first be removed using MEK (Methyl Ethyl Ketone)

Surfaces should then be abrasive blast cleaned to a minimum Sa2½ - Sa3 BS7079 Part A1 : 1989 or equivalent with a blast profile of 75 – 125 microns corresponding to 'Rough' in ISO 8503/1. All loose abrasive dust and debris must be blown clear or vacuum cleaned away.

Equipment that has been 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 similar to bring salts up to the surface. The surface should once again be blast cleaned. This procedure must be repeated until no further sweating of impregnated salt is evident.

MIXING

103E is a two component solvent free material comprising base and activator components which must be mixed together prior to use.

Mix the entire contents of the base and activator containers.

Alternatively measure three volumes of base component and one volume of activator into a clean container. The two components should be thoroughly mixed until completely streak free.

The mixed material should be used within 25 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

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APPLICATION

Application should not be carried out at temperatures below 5°C nor when relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.

The mixed material should be applied to the prepared area using a clean brush or squeegee, application should be carried out as soon as possible after surface preparation is complete and certainly the same day, otherwise flash blasting will be necessary before application.

Where necessary **Reinforcement Tape** should be stippled into the mixed product and further material applied over the tape. For large areas the tape should be overlapped.

In areas where a second layer of **103E** is required, this application must be carried out within the initial set time for the first layer, otherwise the surface must be lightly abraded or flash blasted.

Theoretical Coverage Rate

2.5m²/kilo at 250 microns dft (29.5 ft²/kilo at 10 mils dft)

Recommended Film Thickness

Wet 250 microns

Dry 250microns

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

Detailed working recommendations are available from the Technical Centre on request.

PHYSICAL CONSTANTS

MixingRatio	Base	Activator
	3	1Byvolume
	5	1Byweight

Appearance	Base	Coloured Liquid
	Activator	ClearLiquid

Drying & Cure times at 20°C (68°F)	UsableLife	25 minutes
	Touch Dry	4 hours
	Minimum Overcoating	4 hours
	Maximum Overcoating	24 Hours
	Full Cure	7 days

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

Dry Heat **200°C**
Intermittent wet **120°C**
Wet immersion **70°C**

Food Contact Meets USDA requirements for incidental food contact. Meets FDA requirements CFR 21.175.300 for food contact.
Canadian Food Inspection Agency - Accepted Product.

PHYSICAL PROPERTIES

Abrasion Resistance ASTMD4060	0.08 ml loss per 1000cycles
Shore D Hardness	85
Tensile Shear Adhesion ASTMD1002	175 kg per cm ² (2500 psi) (Grit Blasted Steel)
Corrosion Resistance 10,000 ASTM B117	Excellent, unaffected after hours exposure
Flexural Strength ASTMD790	570 kg/cm ² (8100 psi)
Compressive Strength ASTMD695	700 kg/cm ² (10000 psi)
Impact Resistance ASTMD256	40 Joules (355in lbs)

HEALTH AND SAFETY

As long as normal good practice is observed **103E** can be safely used.

Protective gloves should be worn during use.

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

PACKAGING

Supplied in 1kg, 3kg and 30kg 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.



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