

## Chester Surface Protector YF

### DESCRIPTION:

Chester Surface Protector YF is a two-component flowable epoxy-metallic composite. The material contains modified epoxy resins, ceramic, silicon-metallic and fiber fillers. It is designed to protect against erosion and corrosion of metal and concrete surfaces under water and in conditions of high humidity. Cures under water.

### TYPICAL APPLICATION:

- PROTECTION OF PIPELINES
- PROTECTION OF TANKS
- REGENERATION OF THRUSTERS
- REBUILDING OF KORT NOZZLES
- PROTECTION OF DAMP AND UNDERWATER ELEMENTS
- PROTECTION OF PUMPS

### Technical Data

Density	----	----	<b>1,6 ± 0,05 g/cm<sup>3</sup></b>	
Mix Ratio by Volume	----	----	<b>Whole package</b>	
Mix Ratio by Weight	----	----	<b>2,8 : 1</b>	
Color			<b>gray</b>	
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	<b>19.1 MPa</b>	<b>2770 psi</b>
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	<b>19.1 MPa</b>	<b>2770 psi</b>
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	<b>12.0 MPa</b>	<b>1740 psi</b>
Tensile Shear (Brass)	ASTM 1002	ISO 4587	<b>11.0 MPa</b>	<b>1595 psi</b>
Temperature Resistance Wet	----	----	<b>90°C</b>	
Temperature Resistance Dry	----	----	<b>180°C</b>	
Minimal working temperature	----	----	<b>-50°C</b>	
Working Life (20°C) (68°F)	----	----	<b>50 min</b>	
Hardness	ASTM D2240	ISO R868	<b>65 Sh D</b>	
Compressive Strength	ASTM D695	ISO 604	<b>105 MPa</b>	<b>115220 psi</b>
Thermal conductivity coefficient	----	----	<b>0,56 W/mK</b>	
Flexural strength	----	ISO 178	<b>85 MPa</b>	<b>12320 psi</b>
Modulus of elasticity	----	----	<b>8560 MPa</b>	<b>1,24x10<sup>6</sup> psi</b>
Impact strength	----	ISO 179	<b>6,3 kJ/m<sup>2</sup></b>	

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### DIRECTIONS FOR USE

#### Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 10°C

#### Surface preparation.

From the surface to be protect you need to delete all kinds of impurities, grease, oil, loose corrosion products, old paint coatings. For pre-cleaning is recommended to use the product Cleanrex, Cleanrex II, Fast Cleaner F-7. The surface of the part to be repaired should be degreased chemically or with a gas burner and mechanically cleaned - by shot blasting, sandblasting or with the use of angle grinders, pin grinding wheels, sandpaper, etc. and then if necessary degrease using the e.g. Chester Fast Cleaner F-7 or Ultra Fast Degreaser F-6. Always strive to thoroughly remove surface contamination and make the surface well roughened.

#### Mixing and application of the composition.

Pour the entire contents of the Reactor container into the Base container and mix it intensively until the mass is uniform in color. You should strive for application immediately after preparing the mixture, because the curing reaction starts immediately and any delay reduces the adhesion to the substrate. It is recommended to apply 2 layers of material, 0,6-1,2 mm in total. When applying the second and subsequent layers, the previous one cannot be completely cured. The recommended form of application is applying with a brush or spatula.

#### Coverage rate

Using 1kg of the product you can obtain 0,69m<sup>2</sup> coat of 0,9 mm thickness. To cover a surface of 1m<sup>2</sup> of 0,9mm thickness - you need 1,44 kg of the product. Values given above are theoretical ones. In practice because of various roughness of the surfaces, decrements, irregularity – efficiency of the product may differ by ± 15%

#### Post curing

Post curing at a temperature of 80-100°C (176-212°F) for minimum 2h, after initial cure considerably improves mechanical properties, heat and chemical resistance. Optimal curing process: 7 days in 20°C (68°F) and post-curing at 100°C (212°F) for 4 hours.

### TEMPERATURE EFFECT ON CURING TIME

Ambient temperature [°C]	Working life [min]
10	70
20	50
30	35

It should be remembered that the rate of the reaction significantly depends, apart from the ambient temperature, on the quantity of the used material (the bigger mass of the mixed material, the reaction rate increases). The above presented times refer to the mass of 0,1 kg of the composite.

### CHEMICAL RESISTANCE

Unless otherwise stated, the tests were carried out at 20 ° C (68°F). The samples were cured for 7 days at the temperature of 20°C (68°F).

- 1 – Prolonged immersion
- 2 – Short-term immersion
- 3 – Not recommended

Solvent	Chemical resistance
Petrol	1
Diesel fuel	1
Antifreeze (glycol)	1
Motor oil	1
Petroleum	1
Nitric acid 10%	1
Nitrous acid 10%	1
Acetic acid 5%	2
Amines	1
Hydrochloric acid 10%	1
Ammonia 20%	1
Water 120°C(248°F)	1
Sea water	1
Ozone (dry)	1
Chlorine	1
Acetone	3
Methylene Chloride	3

### OTHER INFORMATION

#### Storage

The product should be stored in original packaging at temperature between +0°C(32 °F) to +30°C(86 °F).