

Chester Surface Protector CF

DESCRIPTION:

Chester Surface Protector CF is a two-element flowable epoxy-ceramic composite. Contains modified epoxy resins and abrasion resistant ceramic fillers. Coating system for protecting, repairing or modify metal and concrete surfaces subjected to particulate abrasion and erosion. Do not contains metallic fillers – electrical insulating material. Cures at room temperature.

TYPICAL APPLICATION:

- PROTECTION OF HOPPERS
- PROTECTION OF CHUTES
- PROTECTION OF CYCLONES
- PROTECTION OF PIPE ELBOWS
- PROTECTION OF CENTRIFUGES
- PROTECTION OF AGITATORS
- SCREW CONVEYORS PROTECTION
- PUMPS PROTECTION

Technical Data

Cured Density	----	----	1,75 ± 0,1 g/cm³	
Mix Ratio by Volume	----	----	whole pack	
Mix Ratio by Weight	----	----	7 : 1	
Color	grey			
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	20,5 MPa	2970 psi
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	20,4 MPa	2960 psi
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	13,8 MPa	2000 psi
Tensile Shear (Brass)	ASTM 1002	ISO 4587	12,2 MPa	1770 psi
Temperature Resistance Wet	----	----	75°C	167°F
Temperature Resistance Dry	----	----	150°C	302°F
Minimal Working Temperature	----	----	-50°C	-58°F
Working Life 20°C (68°F)	----	----	45 min	
Pull-off test for adhesion	ASTM D4541	ISO 4624	min. 30,0 MPa	Min. 4350 psi
Hardness	ASTM D2240	----	89 ShD	
Recoat time	----	-----	up to 18 h	
Determination of resistance to abrasion	----	ISO 7784-2; wheel CS17; load 1kg	8 mm³	
Impact strength	----	ISO 179-1/1fU	5,1 kJ/m²	

DIRECTIONS FOR USE

Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 8°C(46°F) and the relative humidity is above 90% or when condensation occurs on the surface to be repaired.

Metal 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.

Concrete surface preparation

The surface must be clean and dust-free and free from loose pieces of concrete. New concrete must be cured for at least 28 days and cleaned of the cement wash. A slight surface dampness is allowed.

Chester Surface Protector CF

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, 1,0 mm in total. When very high compressive stresses occur, it is recommended that the coating thickness is at least 2 mm. When applying the second and subsequent layers, the previous one must be hardened enough so that it will not be damaged during the application of the next one. The recommended form of application is applying with a brush or spatula. Applications should be carried out at a temperature of 8 - 30°C (46°F -86 °F)

Coverage rate

Using 1kg of the product you can obtain 0,57 m² coat of 1 mm thickness.

To cover a surface of 1m² of 1mm thickness - you need 1,75 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 2-4 hours. For curing at other temperatures, consult the manufacturer.

CURE TIME ACCORDING TO THE TEMPERATURE

Ambient temperature °C (°F)	Working life [min]
10 (50)	65

20 (68)	45
30 (86)	20

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

Tests were carried out at the temperature of 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	1
Motor oil	1
Petroleum	1
Nitric acid 10%	1
Phosphoric acid 10%	1
Acetic acid 5%	1
Amines up to 20%	1
Hydrochloric acid 10%	1
Ammonia 20%	1
Water 80°C(176 °F)	1
Sea water	1
Sodium hydroxide 40%	1
Acetone	3
Methylene Chloride	3

Full table of chemical resistance is on the website

OTHER INFORMATION

Storage

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