

## Chester Surface Protector E

### DESCRIPTION:

Chester Surface Protector E is a two-element liquid epoxy-novolac composite. Contains modified epoxy-novolac resins and barriers fillers. Product is designed to protect metal and concrete surfaces from aggressive chemicals mediums at higher temp. Cures at room temperature.

### TYPICAL APPLICATION:

- CORROSION PROTECTION OF METAL AND CONCRETE SURFACES
- MANHOLES
- TANKS
- FLOORS
- PIPELINE COATINGS
- EFFLUENT TANKS AND CHANNEL

### Technical data

Cured Density	----	----	<b>1,3 g/cm<sup>3</sup></b>	
Mix Ratio by Volume	----	----	<b>whole pack</b>	
Mix Ratio by Weight	----	----	<b>3 : 1</b>	
Color			<b>cream/ grey</b>	
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	<b>21,5 MPa</b>	<b>3120 psi</b>
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	<b>21,3 MPa</b>	<b>3090 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>	<b>194°F</b>
Temperature Resistance Dry	----	----	<b>180°C</b>	<b>356°F</b>
Minimal Working Temperature	----	----	<b>-50°C</b>	<b>-58°F</b>
Working Life (68°F)(20°C)	----	----	<b>50 min</b>	
Cured Hardness	ASTM D2240	----	<b>83°Sh D</b>	

### DIRECTIONS FOR USE

#### Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 10°C(50°F) and the relative humidity is above 90% or when condensation occurs on the surface to be repaired.

#### Metal surface preparation.

All kinds of contamination, greases, oils, loose corrosion products, old paint coatings etc. must be removed from the repaired surface. For pre-cleaning, it is recommended to use Cleanrex, Cleanrex II or Cleanrex RM. The prepared surface should be roughened, if possible by abrasive blasting (grinding, sandblasting - until surface min. Sa 2½) or using angle grinders, grinding pins, sandpaper etc. and then possible degreasing using Fast Cleaner F-7 or Ultra Fast Degreaser F-6. Always seek to thoroughly remove all loose contamination and make the surface roughened.

#### Concrete surface preparation

The concrete surface should be dry, dust removal and cleaned from small concrete parts. New concrete must not have more than 28 days, and cleaned from "cement wash". Light precipitation of surface is allowed.

#### Mixing and application of the composition.

Pour the entire contents of the container labeled Reactor into the container labeled Base and intensively mix the whole to obtain a homogeneous color. The application should be instantly after the preparation of the mixture, as the curing reaction starts immediately and any delay weakens the adhesion to the substrate. It is recommended to apply 2 layers of material with a thickness of 0.25- 0.30 mm each. When applying the second layer, the first can't be fully cured. Apply the material with a brush or spatula.

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### Coverage rate

Using 1kg of the product you can obtain 1,28 m<sup>2</sup> coat of 0,6 mm thickness. To cover a surface of 1m<sup>2</sup> of 0,6 mm thickness - you need 0,78 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 in temperature 60-80°C (140-176°F) for a minimum of 2 hours, after initial curing, significantly increases the strength parameters and chemical resistance. The optimal stabilization is 7 days at 20° C (68°F) and then heating at 80°C (176°C) for a minimum of 4 hours.

### CURE TIME ACCORDING TO THE TEMPERATURE

Ambient temperature °C (°F)	Time for application [min]
10 (50)	65
20 (68)	50
30 (86)	40

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 0.25 kg of the composite.

### CHEMICAL RESISTANCE

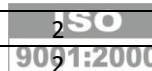
Tests were carried at the temperature of 20°C (68°F).

The tests were carried after 7 days of curing at the temperature of 20°C (68°F) and then soaking for 4 hours at 80 °C(176°F).

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

Medium	Odporność chemiczna
Petrol	1
Disel fuel	1
Coolant (glycol)	1
Motor oil	1
Paraffin	1
Transformer oil	1
Benzen at 40 °C (104 °F)	1
Xylene at 40 °C (104 °F)	1
Toluene at 40 °C (104 °F)	1

Chlorobenzene	1
Ethyl acetate	1
Ethanol	1
Methanol	2
Nitric acid 10%	1
Nitric acid 30%	2
Nitric acid 5% at 40 °C (104 °F)	1
Nitric acid 5% at 60 °C (140 °F)	2
Nitrous acid 15%	1
Hydrofluoric acid 3%	1
Hydrofluoric acid 5%	2
Sulfuric acid 98 % at 60 °C (140 °F)	1
Hydrochloric acid 36 % at 40 °C (104 °F)	1
Hydrochloric acid 15% at 60 °C (140 °F)	2
Phosphoric acid 10%	1
Phosphoric acid 50%	2
Carbonic acid	2
Sodium hydroxide 40% at 60 °C (140 °F)	1
Potassium hydroxide 20% at 60 °C (140 °F)	1
Ammonia 25% at 80 °C (176 °F)	1
Calcium hypochlorite 50% at 60 °C (140 °F)	1
Citric acid 50% at 40 °C (104 °F)	1
Citric acid 50% at 60 °C (140 °F)	2
Acetic acid 3%	1
Acetic acid 10%	2
Lactic acid 10%	1
Lactic acid 70%	2
Tartaric acid 20%	1
Tartaric acid 20% at 60 °C (140 °F)	2
Formic acid 25%	1
Formaldehyde 37% 40 °C (104 °F)	1
Sea water	1
Brine saturated solution 80 °C (176 °F)-	1
Phosphoric acid 50% / Sulfuric acid 98% 1:1	1
Phosphoric acid 50% / Nitric acid 10% 1:1	1
Nitric acid 10% / Sulfuric acid 98% 1:1	2
Acetic acid 3% / Citric acid 50% 1:1	1
Phenol	2
Acetone	2



Full table of chemical resistance is on the  
website <http://www.chester.com.pl/GBA/multimedia/2/51/>

**OTHER INFORMATION**

**Colors/dyes**

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