

Chester Coating E1

DESCRIPTION:

Chester Coating E1 is a two-component, fluid coating material applied by airless spaying. It can also be applied with a brush. The material contains modified epoxy-novolac resins, mineral fillers and anti-corrosive pigments. With Chester Coating E2 is a system for the protection of metal and concrete surfaces against corrosion, weather conditions and some chemicals, also at elevated temperatures. The product contains 100% solids. Cures at room temperature.

TYPICAL APPLICATION:

- PROTECTION OF STRUCTURAL STEELWORKS
- PROTECTION OF FLUES
- PROTECTION OF PIPELINES
- PROTECTION OF SEWERS AND SEWAGE TANKS
- PROTECTION OF STORAGE TANKS

Technical data

Density	-----	-----	1,22 ± 0,05 g/cm³	
Mix Ratio by Volume	-----	-----	whole pack	
Mix Ratio by Weight	-----	-----	5 : 1	
Color	Oxide red			
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	17,5 MPa	2540 psi
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	18,0 MPa	2610 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
Peel Strength (Steel)	ASTM D4521	ISO 4624	min. 22,00 MPa	3190 psi
Temperature Resistance Wet	-----	-----	80°C	176°F
Temperature Resistance Dry	-----	-----	150°C	302°F
Minimal Working Temperature	-----	-----	-50°C	-58°F
Working Life (68°F)(20°C)	-----	-----	45 min	
Hardness	ASTM D2240	-----	87 ShD	
Time to apply next layer at 20°C				min. 2h

DIRECTIONS FOR USE

Conditions during the application.

Product cannot be used at temperatures below 15 ° C (59°F) and relative humidity higher than 90% and under conditions in which condensation of moisture on the repaired surface.

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. You should always strive to thoroughly remove impurities and make the surface rough.

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.

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Mixing and application of the composition.

Both components should be mixed in original containers to obtain uniform color with the use of low-speed mixer. It is advisable to mix the full content of the package. Application should be done immediately after preparation of the mixture. It is recommended to make at once a layer of 0,15 – 0,25 mm. **Recommended complete covering system consist base layer Chester Coating E1 and Chester Coating E2 - top layer.** The product can also be used in combination with other Chester products or be used independently. Applications should be carried out at a temperature of min. 15°C (59°F).

Recommended airless spray parameters at 20 °C

Pressure 20 - 23MPa (2901-3336 psi)
 Nozzle 0,015 OR 0,017
 Filter in the gun 50 mesh

Coverage rate

Using 1kg of the product you can obtain 4,1 m² coat of 0,20 mm thickness. To cover a surface of 1m² of 0,2 mm thickness - you need 0,244 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 70-90°C (158-194°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 90°C (194°F) for 4 hours.

CURE TIME ACCORDING TO THE TEMPERATURE

Ambient temperature °C (°F)	Working life [min]
20 (68)	45
30 (86)	25

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

The samples were subjected to optimal curing process. Unless otherwise stated, the tests were carried out at 20 °C (68°F).

The data in the table is for the complete system (E1 + E2)

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

Solvent	Chemical resistance
Petrol	1
Diesel fuel	1
Coolant	1
Motor oil	1
Petroleum	1
Nitric acid 10 %	2
Phosphoric acid 10%	2
Acetic acid 5%	3
Amines up to 20%	1
Hydrochloric acid 10%	1
Ammonia 20%	1
Water 85°C	1
Sea water	1
Sodium hydroxide 40%	1
Ethyl acetate	1
Methylene Chloride	1
MEK	1

OTHER INFORMATION

Storage

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