

Chester Metal Rapid E

DESCRIPTION:

Chester Metal Rapid E is a two-component, thixotropic epoxy-metallic composite, fast curing. The material contains modified epoxy resins, fillers metallic and fibrous. It is designed for quick emergency repairs - filling, rebuilding and bonding metal surfaces and some plastics. Cures at room temperature. It can be applied to damp and slightly oily surfaces.

TYPICAL APPLICATION:

- STOPPING LEAKS IN PIPELINES AND TANKS
- REPAIR OF CRACKS IN THE BODIES
- BONDING METAL AND PLASTIC ELEMENTS

Technical data

Cured Density	----	----	1,55±0,05 g/cm³	
Mix Ratio by Volume	----	----	1 : 1	
Mix Ratio by Weight	----	----	1,6 : 1	
Color	gray			
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	22,0 MPa	3190 psi
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	21,5 MPa	3120 psi
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	13,5 MPa	1958 psi
Tensile Shear (Brass)	ASTM 1002	ISO 4587	12,6 MPa	1827 psi
Temperature Resistance Wet	----	----	70°C	158°F
Temperature Resistance Dry	----	----	130°C	266°F
Minimal working temperature	----	----	-50°C	-58 °F
Working Life (68°F)(20°C)	----	----	5 min	
Hardness	ASTM D2240	----	75 ShD	
Compressive Strength	ASTM D695	ISO 604	80 MPa	11600 psi
Thermal conductivity coefficient	----	----	0,3 W/mK	
Flexural strength	----	ISO 178	77 MPa	11170 psi
Impact strength	----	ISO 179-1/1fU	6,0 kJ/m²	

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DIRECTIONS FOR USE

Conditions during the application.

The product can be used at temperatures from -15 °C. In this case, to facilitate mixing, use heat both ingredients of the product to temperature over 10 °C.

Surface preparation.

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.

Always strive to thoroughly remove surface contamination and make the surface well roughened. A properly prepared surface should be degreased using e.g. Chester Fast Cleaner F-7 or Ultra Fast Degreaser F-6.

Due to its unique properties, the material can also be applied to damp and slightly oily surfaces.

Mixing and application of the composition.

Use two different spatulas to take the Base and the Reactor. Mix both elements on the flat smooth surface or mix them in original packages until obtaining a uniform color. Efforts should be made to apply immediately after preparing the mixture, because the curing reaction starts immediately and any delay reduces the adhesion. Necessary layer should be placed single, carefully rubbing it into the base. In case there is necessary second layer, first shouldn't be fully cured, otherwise there should be made rough surface. In the case of repairs of cracks, it is recommended to additionally reinforce the composite with a steel mesh or fiberglass net.

CURE TIME ACCORDING TO THE TEMPERATURE.

Ambient temperature °C (°F)	Working life [min]	Time for machining [h]
5 (50)	8	4
10 (50)	7	3
20 (68)	5	1
30 (86)	3	0,7

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).

CHEMICAL RESISTANCE

Unless otherwise stated, the tests were carried out at 20 °C (68°F).

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

Solvent	Chemical resistance
Petrol	1
Diesel fuel	1
Antifreeze	2
Motor oil	1
Petroleum	1
Nitric acid 10%	2
Nitrous acid 10%	2
Acetic acid 5%	1
Amines	2
Hydrochloric acid 10%	1
Ammonia 20%	2
Water 80°C(176°F)	1
Sea water	1
Chlorine	3
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).