

Chester Metal Super Y

DESCRIPTION:

Chester Metal Super Y is a two-element thixotropic epoxy-metallic composite. The material contains modified epoxy resins, ceramic, silicon-steel and fiber fillers. It is designed for filling, rebuilding and bonding oiled metal surfaces in wet conditions. Cures under water.

TYPICAL APPLICATION:

- STOPPING LEAKS IN PIPELINES AND TANKS
- REPAIR OF DAMP OR UNDERWATER ELEMENTS
- KORT NOZZLES REPAIR
- REGENERATION OF BOW THRUSTERS
- REPAIR OF CRACKS IN TANKS

Technical data				
Cured Density	----	----	1,4± 0,05g /cm³	
Mix Ratio by Volume*	----	----	1 : 1	
Mix Ratio by Weight	----	----	1,5 : 1	
Color				gray
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	18,1 MPa	2625 psi
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	20,1 MPa	2915 psi
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	12,0 MPa	1740 psi
Tensile Shear (Brass)	ASTM 1002	ISO 4587	11,0 MPa	1595 psi
Temperature Resistance Wet	----	----	90°C	194 °F
Temperature Resistance Dry	----	----	180°C	356°F
Minimal working temperature	----	----	-50°C	-58 °F
Working Life (68°F)(20°C)	----	----	50 min	
Hardness	ASTM D2240	----	82° Sh D	
Compressive Strength				
	ASTM D695	ISO 604	105 MPa	15225 psi
Thermal conductivity coefficient	----	----	0,56 W/mK	
Flexural strength	----	ISO 178	92 MPa	13340 psi
Flexural modulus	----	----	8560 MPa	1,24x10⁶ psi
Impact strength	----	ISO 179-1/1fU	6,1 kJ/m²	

* we recommend using proportions by weight

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DIRECTIONS FOR USE

Conditions during the application.

The product cannot be used at a temperature lower than 8 °C (46°F)

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.

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. Once the mix was prepared it should be directly applied, because curing starts immediately and every late could weaken 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.

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 at 20°C (68°F) and post-curing at 100°C (212°F) for 4 hours.

CURE TIME ACCORDING TO THE TEMPERATURE.

Ambient temperature °C (°F)	Time for application [min]	Time for treatment [h]
8 (46)	120	18
10 (50)	70	10
20 (68)	50	6
30 (86)	35	3

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).

- 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
Nitrous acid 10%	1
Acetic acid 5%	2
Amines	1
Hydrochloric acid 10%	1
Ammonia 20%	1
Water 100 °C(212 °F)	1
Sea water	1
Ozone (dry)	1
Chlorine	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).