

Chester Metal Super SL

DESCRIPTION:

Chester Metal Super SL is a two-element thixotropic epoxy-metallic composite **with extended working life**. The material contains modified epoxy resins, steel and fiber fillers. A steel-filled epoxy putty cures at room temperature and is designed for filling, rebuilding, and bonding metal surfaces.

TYPICAL APPLICATION:

- LEAKAGES IN PIPELINES AND TANKS
- SPLINE REPAIRS
- SETTLING OF BRIDGE BEARING
- HEAT EXCHANGES
- HYDRAULIC RAMS
- CONDENSERS
- BEARING HOUSINGS
- ENGINE BLOCKS
- REPAIR OF CRACKED CASES
- RECONSTRUCTION OF OVER-SIZED BEARING SEATS
- RECONSTRUCTION OF WORN OUT ROLLING BEARING PINS
- REPAIR OF CASING DEFECTS
- RECONSTRUCTION OF STRIPPED THREADS AND DAMAGED SPLINEWAYS

Technical Data

Cured Density	----	----	2,14[±] 0,05	
			g/cm³	
Mix Ratio by Volume	----	----	2 : 1	
Mix Ratio by Weight	----	----	3,1 : 1	
Color			gray	
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	18,5 MPa	2685 psi
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	12,0 MPa	1740 psi
Tensile Shear (Brass)	ASTM 1002	ISO 4587	11,8 MPa	1710 psi
Temperature Resistance Wet	----	----	100[°]C	212[°]F
Temperature Resistance Dry	----	----	250[°]C	482[°]F
Minimal working temperature	----	----	-50[°]C	-58[°]F
Heat Distortion Temperature	----	DIN 53462	68[°]C	
Ambiet Cure			115[°]C*	239[°]F
Post Cure				
Working Life (68 [°] F)(20 [°] C)	----	----	65 min	
Max working temperature			270[°]C	
Cured Hardness	ASTM D2240	----	88[°]Sh D	
Compressive Strength	ASTM D695	----		
		ISO 604	146 MPa	21175 psi
Thermal conductivity coefficient	----	----	0.56 W/mK	
Flexural strength	----	ISO 178	90 MPa	
Flexural modulus	----	----	8560 MPa	
Impact strength	----	ISO 179	5,4 kJ/m²	

* after heating 30 days at a temperature of 180[°]C.

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DIRECTIONS FOR USE

Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 5°C and the relative humidity is above 90% or when condensation occurs on the surface to be repaired.

Surface preparation.

The surface in the part to be repaired shall be mechanically cleaned by means of blast cleaning, sanding, or with the help of the abrasive paper, grinders, pin-lift grinding wheels, etc. You should always aim at thoroughly remove all loose contamination and make the surface roughened. A correctly prepared surface shall be degreased using for ex. Chester Fast Cleaner F-7 or Chester 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 (do not mix them in their 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 fiberglass net.

Efficiency

1kg. after mixing has volume 0,47 dm³.

Post curing

Curing in temperature 80-120oC(176-248oF)in minimum 2h, after initial cure considerably improves mechanical properties, heat and chemical resistance. optimal thermal stabilization is 7 days in 20 oC and heating for 4 hours in 120 oC.(248oF)

CURE TIME ACCORDING TO THE TEMPERATURE.

Ambient temperature °C (°F)	Time for application [min]	Time for treatment [h]
5 (41)	180	24
10 (50)	100	16
20 (68)	65	12
30 (86)	40	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). The above presented times refer to the mass of 0.25 kg of the composite.

CHEMICAL RESISTANCE

samples were subjected to thermal stabilization. If not stated otherwise tests were carried 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
Brake fluid	1
Motor oil	1
Petroleum	1
Nitric acid 10%	1
Nitrous acid 10%	1
Acetic acid 5%	2
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).

