chester molecular®

Technical Data Sheet

July 2010

Chester Metal Slide F

DESCRIPTION:

Chester Metal Slide is a two-element liquid composite based on molybdenum disulfide **with very good lubricating properties**. The material contains modified epoxy resins, molybdenum disulfide and fiber fillers. The epoxy composite cures at room temperature and is designed for filling, rebuilding, and bonding metal surfaces.

TYPICAL APPLICATION:

- **SHAFT SLEEVES**
- **BEARINGS**
- **BUSHINGS**
- **SLIDEWAYS**
- **LOW FRICTION SURFACES**
- **RECONSTRUCTION OF THE SURFACE SEELING WORKING WITH O-RINGS**
- **GUIDES**

Technical data				
Cured Density	-----	-----	**1,45 g/cm^3**	
Mix Ratio by Volume	-----	-----	**whole pack**	
Mix Ratio by Weight	-----	-----	**9: 1**	
Color			**dark gray**	
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	**20,0 MPa**	**2900 psi**
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	**19,0 MPa**	**2756 psi**
Tensile Shear (Aluminum)	ASTM 1002	ISO 4587	**12,2 MPa**	**1769 psi**
Tensile Shear (Brass)	ASTM 1002	ISO 4587	**11,6 MPa**	**1682 psi**
Temperature Resistance Wet	-----	-----	**100^{o}C (-50^{o}C)**	**212^{o}F (-58^{o}F)**
Temperature Resistance Dry	-----	-----	**200^{o}C (-50^{o}C)**	**392^{o}F (-58^{o}F)**
Minimal working temperature	-----	-----	**-50^{o}C**	**-58 ^{o}F**
Heat Distortion Temperature Ambiet Cure Post Cure	ASTM D648	-----	 **65^{o}C** **121 ^{o}C**	 **149^{o}F** **249^{o}F**
Heat Distortion Temperature Ambiet Cure Post Cure	-----	DIN 53462	 **61 ^{o}C** **110 ^{o}C**	 **141^{o}F** **230^{o}F**
Working Life (68^{o}F)(20^{o}C)	-----	-----	**25 min**	
Cured Hardness	ASTM D2240	-----	**87D**	
Compressive Strength	ASTM D695	-----	**1448 kg/cm^2**	**20595 psi**
	-----	ISO 604	**142 MPa**	**20595 psi**
Thermal conductivity coefficient	-----	-----	**0,3 W/mK**	
Flexural strength	-----	ISO 178	**94 MPa**	**13633 psi**
Impact strength	-----	ISO 179	**5,5 kJ/m^2**	

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DIRECTIONS FOR USE

Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 4°C(39°F) 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 components until obtaining a uniform color. It is recommended to mix total content of the packaging. It is the best to place the necessary coat at once, carefully rubbing it into the base.

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

Whereas the second coat of the material applying the first one can not to be fully cured.

Post curing

Post curing in temperature 80-110°C in minimum 2h, after initial cure considerably improves mechanical properties, heat and chemical resistance.

Optimal cure after 7 days in 20°C (68°F) and post-cure by heating to 100°C (212°F) for a period of up to 24 hours.

CURE TIME ACCORDING TO THE TEMPERATURE.

Ambient temperature [°C](°F)	Time for application [min]	Time for machining [h]
5(41°F)	50	16
10(50 °F)	40	8
20(68 °F)	25	5
30(86 °F)	10	2.5

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).

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
Mineral oils	1
Acetic acid 3%	1
Hydrocarbons	1
Hydrochloric acid 10%	1
Ammonia 20%	1
Water 100°C(212 °F)	1
Sea water	1
Lubricating oils	1
Chlorine	1
Acetone	3
Methylene Chloride	3

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

OTHER INFORMATION

Storage

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

ISO 9001:2000