chester molecular®

Technical Data Sheet

July ٢٠١٠

Chester Surface Protector CF

DESCRIPTION:

Chester Surface Protector CF is a two-element **liquid** epoxy-ceramic composite. Contains modified epoxy resins and abrasion resistant ceramic fillers. Coating systems for protecting, repairing or modify metal and concrete surfaces subjected to particulate abrasion and erosion. Do not contains metallic fillers – electro insulating product. The ceramic-filled epoxy coating cures at room temperature, electro insulating.

TYPICAL APPLICATION:

- **HOPPERS**
- **CHUTES**
- **CYCLONES**
- **PIPE ELBOWS**
- **CENTRIFUGES**
- **IMPELLERS**
- **SCREW CONVEYORS**
- **WEAR PLATES**
- **PUMPS**
- **VALVES**

Technical Data				
Cured Density	-----	-----	١,٨ **g/cm^3**	
Mix Ratio by Volume	-----	-----	**whole pack**	
Mix Ratio by Weight	-----	-----	**٧ : ١**	
Color			**grey-brown**	
Tensile Shear (Stainless Steel)	ASTM ١٠٠٢	ISO ٤٥٨٧	٢٠,١ **MPa**	٢٩١٥ **psi**
Tensile Shear (Mild Steel)	ASTM ١٠٠٢	ISO ٤٥٨٧	٢٠,٠ **MPa**	٢٩٠٠ **psi**
Tensile Shear (Aluminum)	ASTM ١٠٠٢	ISO ٤٥٨٧	١٣,٨ **MPa**	٢٠٠١ **psi**
Tensile Shear (Brass)	ASTM ١٠٠٢	ISO ٤٥٨٧	١٢,٢ **MPa**	١٧٦٩ **psi**
Temperature Resistance Wet	-----	-----	**٧٥^{O}C**	**١٦٧^{O}F**
Temperature Resistance Dry	-----	-----	**١٥٠^{O}C**	**٣٠٢^{O}F**
Minimal Working Temperature	-----	-----	**-٥٠^{O}C**	**-٥٨^{O}F**
Working Life ٢٠^{O}C (٦٨^{O}F)	-----	-----	**٥٠ min**	
Cured Hardness	ASTM D٢٢٤٠	-----	**٨٩^{O}ShD**	
Recoat time	-----	-------	**٣-١٥ h**	
Impact strength	-----	ISO ١٧٩	٧,٠ **kJ/m^2**	

DIRECTIONS FOR USE

Conditions during the application.

The product is not recommended to apply when the ambient temperature is below ٨^{o}C(٤٦^{O}F) and the relative humidity is above ٩٠٪ or when condensation occurs on the surface to be repaired.

Metal 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. Cleanrex or Cleanrex II. The elements that were working under oil should be scorch by gas-jet. This prepared surface should be

Concrete surface preparation

The concrete surface should be dry, dust removal and cleaned from small concrete parts.

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

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of the packaging. It is the best to place the necessary coat at once, carefully rubbing it into the base.

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Once the mix was prepared it should be directly applied, because curing starts immediately and every late could weaken the adhesion.
Two coats of ٠,٥ mm thickness are recommended for applying. Whereas the second coat of the material applying the first one can not to be fully cured. . In case of very high compressive stress it is recommended to put at least ٢mm coat
Recommended is using of brush or spatula for applying this material.

Coverage rate

Using ١kg of the product you can obtain ١,١٢ m^2 coat of ٠,٥ mm thickness.
To cover a surface of ١m^2 of ٠,٥mm thickness - you need ٠,٩ 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 +/- ١٥٪

Post curing

Post curing in temperature ٦٠-٨٠°C(١٤٠-١٧٦°F) in minimum ٢h, after initial cure considerably improves mechanical properties, heat and chemical resistance.

CURE TIME ACCORDING TO THE TEMPERATURE

Ambient temperature °C (°F)	Time for application [min]
٥ (٤١)	٨٠
١٠ (٥٠)	٧٠
٢٠ (٦٨)	٥٠
٣٠ (٨٦)	٢٥

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 ٠.٢٥ kg of the composite.

CHEMICAL RESISTANCE

Tests were carried at the temperature of ٢٠°C (٦٨°F). The tests were carried after ٧ days of curing at the temperature of ٢٠°C (٦٨°F).

١ – Prolonged immersion
٢ – Short-term immersion
٣ – Not recommended

Solvent	Chemical resistance
Petrol	١
Diesel fuel	١
Brake fluid	١
Motor oil	١
Petroleum	١
Nitric acid ١٠%	١
Phosphoric acid ١٠٪	١
Acetic acid ٥%	١
Amines up to ٢٠٪	١
Hydrochloric acid ١٠%	١
Ammonia ٢٠٪	١
Water ٨٠°C(١٧٦°F)	١
Sea water	١
Sodium hydroxide ٤٠٪	١
Acetone	٣
Methylene Chloride	٣

Full table of chemical resistance is on the website
http://www.chester.com.pl/GBA/multimedia/٢/٥١/

OTHER INFORMATION

Storage

The product should be stored in original packaging at temperature between +٠°C (32 °F) to +30°C (86 °F).

ISO 9001:2000