chester molecular®

Technical Data Sheet

April 2013

Chester Coating D2

DESCRIPTION:

Chester Coating D2 is a two-element liquid protective coating designed for airless application.
It can also be applied with a brush. The material contains modified epoxy resins and barrier fillers. Designed to protect metal and concrete surfaces against corrosion, atmospheric conditions and weak chemical. The product contains 100% of solids. Curing at room temperature.

TYPICAL APPLICATION:

- **PROTECTION OF STEEL STRUCTURES**
- **PIPE PROTECTION**
- **SECURING YOUR STORAGE TANKS**
- **SECURING SLUDGE CHANNELS AND TANKS**

Technical data				
Cured Density	-----	-----	**1,34 g/cm^3**	
Mix Ratio by Volume	-----	-----	**Whole package**	
Mix Ratio by Weight	-----	-----	**5 : 1**	
Color	-----	-----	**Grey**	
Tensile Shear (Stainless Steel)	ASTM 1002	ISO 4587	**20,0 MPa**	**2900 psi**
Tensile Shear (Mild Steel)	ASTM 1002	ISO 4587	**20,5 MPa**	**2975 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	-----	-----	**60^{O}C**	
Temperature Resistance Dry	-----	-----	**100^{O}C**	
Minimal working temperature	-----	-----	**-50^{O}C**	
Working Life (68^{O}F)(20^{O}C)	-----	-----	**45 min**	
Cured Hardness	ASTM D2240	-----	**86 ^{O}Sh D**	
Time to apply next layer in 20^{O}C	-----	-----	**min. 3,5 h**	

DIRECTIONS FOR USE

Conditions during the application.

Product cannot be used at temperatures below 15 ° C and relative humidity higher than 90% and under conditions in which condensation of moisture on the repaired surface.

Preparation of metal surfaces.

From the surface to be secure you need to remove all types of contaminants, grease, oil, loose corrosion products, old paint coatings, etc. For pre-washing it is recommended to use Cleanrex or Cleanrex II. The prepared surface should be rugged if possible by blasting (shot blasting, sandblasting) or using angle grinders, burrs grinding wheels, etc. and then degrease using Chester Fast Cleaner F-7 or Ultra Fast Degreaser F-6.

Preparation of concrete surfaces

The surface must be clean and not-dusting and cleaned of loose pieces of concrete. New concrete must be cured for not less than 28 days and cleaned from so-called "Laitance". Light moisture is allowed to surface.

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Mixing and application of the composition.

Both components should be mixed in original containers to obtain uniform color with the use of low-speed mixer. It is advisable to mix the full content of the package. Application should be done immediately after preparation of the mixture. It is recommended to make at once a layer of 0.15 - 0.25 mm. **Recommended complete covering system consist coating layer Chester primers D1 and Chester Coating D2 - external layer.** The product can also be used in combination with other Chester products or be used independently. Application should be made in min. 15°C temperature.

Recommended airless spray parameters at 20 ° C

Pressure	18-23 MPa
Nozzle	0,015 - 0.019
Filter in the gun	50 mesh

Efficiency.

From 1kg of material you will obtain 3,7m^2 layer of thickness of 0.20 mm, it means – to cover 1m^2 with 0.20mm thickness layer, you need 0.27kg of material. The above figures are calculated theoretically. In practice, due to the different roughness of the surface, pitting, inequality, as well as deviations from the assumed thickness of the coating, the actual performance may vary by + - 15%

Thermal stabilization.

Heating at a temperature of 70-80°C for a minimum of 2 hours after the initial curing, the strength values of the claims. Optimal stability is 7 days at 20 ° C followed by heating at 80 ° C for 24h.

TEMPERATURE EFFECT ON CURING TIME.

Ambient temperature [°C]	Time for application [min]
15	60
20	40
30	30

Please note that in addition to the rate of the reaction temperature is highly influenced by the amount of used material (the larger the mass of material mixed, the reaction rate) and the thickness of the applied layer Please note that reaction speed is influenced not only by temperature of environment but also how much of material has been used (the more material, the faster reaction) and the thickness of the applied layer.
The above times are based on the weight of 0.25 kg of the product.

CHEMICAL RESISTANCE

Unless specified otherwise, the tests were performed at 20°C. The samples were cured 7 days at 20 ° C.
The data in the table for a complete system (D1+D2)
1 – Continuously contact
2 – Temporally contact
3 – Not recommended

Medium	Chemical Resistance
Petrol	1
Diesel	1
Coolant	1
Engine Oil	1
Oil	1
Nitric acid 10%	2
Phosphoric acid 10%	2
Acetic acid 5%	3
Amines up to 20%	1
Hydrochloric acid 10%	1
Sulfuric acid 15%	2
Ammonia 20%	1
Water 60°C	1
Seawater	1
Sodium hydroxide 40%	1
Acetone	2
MEK	2
Ethyl acetate	1

Pełna tabela odporności chemicznej znajduje się na stronie internetowej
http://www.chester.com.pl/POL/multimedia/2/51/

OTHER INFORMATION

Storage

The product should be stored in the original packaging at temperatures between +5 OC to +30 OC.