

Chester Quartz

DESCRIPTION:

Chester Quartz is an epoxy-quartz system to repair and protect concrete surfaces from corrosion and abrasion. The product includes the following components:

Chester Quartz Reactor – Chester Quartz Base – Chester Quartz Aggregate

The set is supplied with addition primer:

Chester Quartz Conditioner Reactor – Chester Quartz Conditioner Base

TYPICAL APPLICATION:

- MACHINERY FOUNDATIONS REPAIR
- CONCRETE TANKS SEALING
- ENFORCMENT OF CHMICAL RESISTANT FLOORS
- ANCHORING BOLTS
- ELECTRICITY PYLON FOUNDATION REPAIR
- REPAIR OF SETTLING TANK RACE-WAY

Technical data

Chester Quartz Conditioner

Cured Density	----	----	1,2 g/cm³	
Mix Ratio by Volume	----	----	1:1	
Mix Ratio by Weight	----	----	1 : 1	
Color	light brown			
Working Life 20 ^o C (68 ^o F)	3,5 h			

Chester Quartz

Cured Density	----	----	1,6-2,1 g/cm³	
Mix Ratio by Volume	whole package			
Mix Ratio by Weight	1 : 2 : 22,8			
Base: Reactor: Aggregate				
Tensile Shear (Stainless Steel) with use of Chester Quartz Conditioner	ASTM 1002	ISO 4587	13,3 MPa	1930 psi
Temperature Resistance Wet	----	----	60^oC	140^oF
Temperature Resistance Dry	----	----	150^oC	302^oF
Minimal Working Temperature	----	----	-50^oC	-58^oF
Working Life 20 ^o C (68 ^o F)	----	----	45 min	
Compressive strength				
100% Quartz Aggregate	----	ISO 12390-3	108,8 MPa	15780 psi
80% Quartz Aggregate			114,0 MPa	16530 psi
Tensile strength				
100% Quartz Aggregate	----	ISO 12390-3	17,7 MPa	2565 psi
80% Quartz Aggregate			16,9 MPa	2450 psi
Impact strength	----	ISO 179	2,7 KJ/m²	

DIRECTIONS FOR USE

Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 4^oC(39^oF) and the relative humidity is above 90% or when condensation occurs on the surface to be repaired.

Surface preparation.

The concrete surface should be dry, dust removed and cleaned from small concrete parts – sanding is recommended. Correctly prepared surface should be degreased and cleaned with use of Cleanrex or Cleanrex WZ-2. Then wash surface with water. New concrete must cure at least for 28 days and cleaned from sodium carbonate.

The metal 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.

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

Chester Surface Protector DSL

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

Two coats of 0,3 mm thickness are recommended for applying. Whereas the second coat of the material applying the first one can not to be fully cured. Recommended is using of brush or roller for applying this material.

Coverage rate

Using 1kg of the product you can obtain 1,2 m² coat of 0,6 mm thickness.

Example:

- to cover a surface of 1m² of 0,6mm thickness - you need 0,78 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 +/- 15%

Post curing

Post curing in temperature 60-80°C(140-176°F) in minimum 2h, 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]
5 (41)	180

10 (50)	120
20 (68)	90
30 (86)	75

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 15%	1
Phosphoric acid 10%	1
Acetic acid 5%	1
Amines up to 20%	1
Hydrochloric acid 15%	1
Ammonia 20%	1
Water 60°C(140 °F)	1
Sea water	1
Sodium hydroxide 40%	1
Sulfuric acid 15%	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

Colors/dyes

Chester Surface Protector DSL is supplied as the four colors. Pigments are supplied separately. It can be tinted as required by use of the following dyes:
Light grey /Grey /Green /Blue

Storage

ISO 9001:2000

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