

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°C (68°F)	3,5 h			

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Cured Density	----	----	1,6-2,1 g/cm³	
Mix Ratio by Volume	whole package			
Mix Ratio by Weight	2 : 1 : 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°C	140°F
Temperature Resistance Dry	----	----	150°C	302°F
Minimal Working Temperature	----	----	-50°C	-58°F
Working Life 20°C (68°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°C(39°F) 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.

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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. Before application of the mix prepared earlier, surface must be primed with Chester Quartz Conditioner.

Mixing and application of the Chester Quartz Conditioner.

Whole content of Reactor package pour into Base package and mix until receiving homogeneous mass. It is recommended to start the application immediately. Product must be distributed on the surface not bigger than 1,15m². After applying activator (ground), you can immediately proceed to application of Quartz Chester. The maximum time is limited to 7 hours. After this time, remove the activator layer (sand it) and apply again.

Mixing and application of the Chester Quartz

Base and reactor should be transferred to the packaging (buckets) and mix mechanically until a homogeneous mass. Then add, mixing constantly, the third component - Chester Quartz Aggregate. The amount of added filler depends on the desired consistency. Efforts should be made to the application of the mixture immediately after preparation, since the curing reaction starts immediately and any delay weakens the grip. Recommended thickness of the applied layer is 5-6 mm. When applying you must pay attention to remove, by thorough rubbing and pressure, contained in the material, air bubbles. When applying on vertical surfaces for maximum layer thickness is 6mm at 20°C without the danger of runoff. For small areas, this thickness is increased. Preparing smaller quantities of Chester Quartz and Chester Conditioner Quartz, previously indicated incorporated into the mix ratio. Chester Quartz can be applied to damp surfaces, but reckoned with few-percent reduced adhesion force. Chester Quartz can be colored using dyes to conventional epoxy resins. Surfaces lined with Chester Quartz are ready for operation in the time given below:

	Temperature	
	10°C	20°C
Pedestrians traffic	18h	6h
Full load	48h	24h
Full chemical resistance	14 days	7 days

The entire pack of 15 kg Chester Quartz is sufficient to complete 1.15m² coating with a thickness of 6 mm on a smooth flat surface.

CURE TIME ACCORDING TO THE TEMPERATURE

Chester Quartz Conditioner

Ambient temperature °C (°F)	Time for application [min]
8 (41)	280
10 (50)	250
20 (68)	210
30 (86)	180

Application of Chester Quartz can begin immediately after priming. At 20 ° C maximum recoating Chester Quartz is 7 hours.

Ambient temperature [°C]	Time to impose [min]
5 (41)	90
10 (50)	70
20 (68)	45
30 (86)	35

Full mechanical resistance (at 20 ° C) - after 24 hours.
 Full chemical resistance (at 20 ° C) - after 7 days



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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), and the thickness of the applied layer. Adding a smaller amount of filler Chester Quartz Aggregate also accelerates the curing reaction.

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

Storage

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