

## 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:

- REPAIR OF MACHINERY FOUNDATIONS
- CONCRETE TANKS SEALING
- MAKING OF CHEMICALLY RESISTANT FLOORS
- ANCHORING OF FOUNDATION BOLTS
- REPAIR OF ELECTRIC LINE POLES FOUNDATIONS
- REPAIR OF SETTLING TANKS RACEWAYS IN SEWAGE TREATMENT PLANTS

### Technical data

#### Chester Quartz Conditioner

Density	----	----	<b>1,2 ± 0,05 g/cm<sup>3</sup></b>	
Mix Ratio by Volume	----	----	<b>1:1</b>	
Mix Ratio by Weight	----	----	<b>1 : 1</b>	
Color	<b>light brown</b>			
Working Life 20°C (68°F)	<b>3,5 h</b>			

#### Chester Quartz

Density	----	----	<b>1,6-2,1 g/cm<sup>3</sup></b>	
Mix Ratio by Volume	<b>whole package</b>			
Mix Ratio by Weight	<b>2 : 1 : 22,8</b>			
Base: Reactor: Aggregate				
Color	<b>Light grey</b>			
Tensile Shear (Stainless Steel) with use of Chester Quartz Conditioner	ASTM 1002	ISO 4587	<b>13,3 MPa</b>	<b>1930 psi</b>
Temperature Resistance Wet	----	----	<b>60°C</b>	<b>140°F</b>
Temperature Resistance Dry	----	----	<b>150°C</b>	<b>302°F</b>
Minimal Working Temperature	----	----	<b>-50°C</b>	<b>-58 °F</b>
Working Life 20°C (68°F)	----	----	<b>0,75 h</b>	
Compressive strength				
100% Quartz Aggregate	----	ISO 12390-3	<b>108,8 MPa</b>	<b>15780 psi</b>
80% Quartz Aggregate			<b>114,0 MPa</b>	<b>16530 psi</b>
Tensile strength				
100% Quartz Aggregate	----	ISO 12390-3	<b>17,7 MPa</b>	<b>2565 psi</b>
80% Quartz Aggregate			<b>16,9 MPa</b>	<b>2450 psi</b>
Impact strength	----	ISO 179	<b>2,7 kJ/m<sup>2</sup></b>	

### DIRECTIONS FOR USE

#### Conditions during the application.

The product is not recommended to apply when the ambient temperature is below 8°C(46°F) and the relative humidity is above 90% or when condensation occurs on the surface to be repaired.

#### Surface preparation.

The concrete surface must be dust-free and cleaned of loose pieces, preferably sand-blasted. A properly prepared surface should be degreased and washed

using Cleanrex or Cleanrex WZ-2, then thoroughly rinsed with water and left to dry.

New concrete must be cured for no less than 28 days and cleaned from cement wash.

Metal surfaces should be degreased chemically or with a gas burner and mechanically cleaned - by shot blasting, sandblasting or with the use of angle grinders, pin grinding wheels, sandpaper, etc. Always strive to thoroughly remove dirt and make the surface rough. A properly prepared surface should be degreased using e.g. Chester Fast Cleaner F-7 or Ultra Fast Degreaser F-6. The prepared surface should be thoroughly primed with Chester Quartz Conditioner.

### **Mixing and application of the Chester Quartz Conditioner.**

Pour the entire contents of the Reactor and Base packages into the collective packaging (buckets) and mix thoroughly until a homogeneous mass is obtained. It is recommended to immediately start spreading on the prepared surface. The whole Conditioner must be spread over an area of not more than 1,15 m<sup>2</sup>. After applying the Chester Quartz Conditioner, you can apply Chester Quartz immediately. The maximum time is limited to 7 hours. After exceeding this time, the Conditioner layer should be removed (grinded off) and reapplied.

#### **Mixing**

**and application of the Chester Quartz** The Base and the Reactor should be poured into the collective packaging (buckets) and mixed, preferably mechanically, until a homogeneous mass is obtained. Then add the third ingredient - Chester Quartz Aggregate, while stirring. The amount of added filler depends on the expected consistency. Efforts should be made to apply immediately after preparing the mixture, because the curing reaction starts immediately and any delay reduces the adhesion. The recommended thickness of the applied layer is 5-6 mm. When applying, pay attention to remove the air bubbles contained in the material by thorough rubbing and pressing. When applying on vertical surfaces, the maximum layer thickness at 20 ° C is 6 mm without risk of sagging. For small areas, the thickness is increased. When preparing smaller amounts of Chester Quartz Conditioner and Chester Quartz, consider the mixing ratios given above. Chester Quartz can be applied on wet surfaces, but a dozen or so percent reduction in the adhesive strength should

be taken into account. Chester Quartz can be dyed using common epoxy dyes. Surfaces coated with Chester Quartz are ready for operation at the following times:

	Temperature	
	10°C ( 50° F )	20°C ( 68° F )
Pedestrians traffic	18h	6h
Full mechanical load	48h	24h
Full chemical resistance	14 days	7 days

A whole package of 15 kg of Chester Quartz is sufficient to apply 1,15 m<sup>2</sup> of 6 mm thick coating on a smooth even surface.

### **CURE TIME ACCORDING TO THE TEMPERATURE**

#### **Chester Quartz Conditioner**

Ambient temperature °C (°F)	Working life [min]
8 (46)	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 (°F)	Working life [min]
8 (46)	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

## **Chester Quartz**

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 Chester Quartz Aggregate also accelerates the curing reaction.

### **CHEMICAL RESISTANCE**

Unless otherwise stated, the tests were carried out at 20 ° C (68°F). The samples were cured for 7 days at the temperature of 20 ° C (68°F).

- 1 – Prolonged immersion
- 2 – Short-term immersion
- 3 – Not recommended

<b>Solvent</b>	<b>Chemical resistance</b>
Petrol	1
Diesel fuel	1
Antifreeze (glycol)	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

## **OTHER INFORMATION**

### **Storage**

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