

# PCC-501 Cementitious Capillary Crystalline Waterproof Coating

## Technical Data Sheet

### 1. Description

PCC-501 Cementitious Capillary Crystalline Waterproof Coating is a powder rigid waterproof material consists of the base of special cement and quartz sand etc., and active chemical additive. Before application we fill water to form pulp, brushing on the concrete surface, after solidification there will be a rigid attached coating, the active chemical seep into concrete by water carrier and catalyze the silicate in the concrete to produce crystal which does not dissolve in water, this crystal stuffs the pores and blind cracks of concrete to compact the concrete, to achieve seepage resistance and waterproof purpose.

### 2. Characters & Packing

Item	Data
Appearance	Powder
Color	Gray
Package	Plastic drum
Packing Size	20 kg per drum

### 3. Technical Information

Meet the requirements of GB 18445-2012 *Cementitious capillary crystalline waterproofing materials*.

Items		Technical index	Typical values
Appearance		Uniform and non-agglomeration	Uniform and non-agglomeration
Water content		$\leq 1.5\%$	0.8%
Fineness, 0.63mm sieve residue		$\leq 5\%$	0%
Application property	After adding water and stirring	Easily blade coating	Easily blade coating
	20min later	Easily blade coating	Easily blade coating
The wet surface adhesion strength (28d)		$\geq 1.0\text{MPa}$	1.3MPa
Anti-permeability of cement mortar	Impermeability pressure ratio with coatings (28d)	$\geq 250\%$	300%
	Impermeability pressure ratio without coatings (28d)	$\geq 175\%$	233%

### 4. Area of Application

Applied to waterproof and anti-permeation engineering constructions of concrete like concrete structure of underground buildings, subways, tunnels, sewage treatment pools, running water pools, draining gutters, water pools, canals, walls etc.

### 5. Features & Benefits

Strong crystal catalyzing ability, in order to have excellent seepage resistance for concrete base.

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It has strong self-healing ability; it is able to block the crack less than 0.4mm, to block the water.

It has self-breathing ability, the crystal is able to block the water but air does not block the breathing.

It has favorable performance of temperature resistance, chemical corrosion resistance, moisture resistance, aging resistance, radiation resistance.

Waterproof system integrated with concrete, resistance of bumping, is able to bear certain exogenous force.

Not toxic, pollution-free, safe to apply in engineering like drinking water engineering etc.

### 6. Method of Application

#### 1. Brushing Construction

I .Remove sundries like laitance, alkali efflorescence, dust and oil stains etc. on the base surface, and roughen the surface, to open the capillary fully for permeation, finally we use high pressure water gun to clean the surface.

II .Fully wetting base surface, to keep the surface wet without water appearance.

III.Follow by the weight ratio, powder material: water=1 :( 0.35-0.40). First pour water into container, then add powder material, use mechanical stirring to uniformity, the mixed thick liquid should be finished within 20 minutes, and water is not allowed to be added in during using process.

IV.Use the bristle brush to brush evenly for many times, wait for the first time of brushing curing, wait till the surface turns white, then it is allowed to have the next brushing, if the interval is over 12 hours, use atomized water to spray on the surface ,then carry out next brushing.

#### 2. Dry powder coating construction

Spray the powder by 1.5kg/m<sup>2</sup> evenly on the non-completely solidified concrete surface, immediately use wooden trowel and polisher to press the powder into the concrete and press polish the surface.

3. Coating curing: Use atomized water and wet cloth etc. to cure for not less than 72 hours, the best curing period is 7 days.

### 7. Transportation and Storage

Classify different kinds of products during storage and transportation, don't mess up. And prevent sunlight, rain and damp.

The quality guarantee period is 12 months under normal transport and storage conditions.

### 8. Precautions & Limitations

It can't be applied in the rain or ambient temperature below 5 °C .Avoiding to the coating drying too fast, it should be used in the morning or evening. Avoid exposure to hot weather when working outdoors. After the construction, the rain should be avoided in 24 hours, and the frost, exposure, sewage and low temperature under 5 degree should be avoided in 48 hours.

The concrete surface shall be firm, smooth, clean and sufficient wetting in order to provide fully open capillary system for infiltration.

Grasp the ratio of material and water. The batch should not be too much to ensure that it can be finished in 20 minutes. Don't water and feed in the process. Stir frequent when the mixture thickens to ensure that the paint is

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homogeneous, and avoid the increase of sand content.

Use a semi-hard nylon brush instead of paint rolling or trowel. Brush should be pulled vertical and horizontal to ensure that the convex and concave can apply and achieve uniform thickness. The deposits in the internal corner and the depression cannot be too thick, or the coating may crack. It should brush two times usually. Do not brush too much to avoid the coating thick and maintenance difficulties. Also coating should not be brushed too thin to cause the water loss fast and produce powder.

### **9. Quality, Health & Safety**

Please read the safety manual carefully, our security experts will be pleased to give you advises about safety, health and environmental issues.

### **10. Product Responsibility**

The above information and recommendations which are based on our experience are as for reference, they can't replace the customers' own experimental results. Since our company, our representatives or distributors can't control the transportation, storage, handling and use conditions of the products, the economic disputes and the quality accident caused by improper use can't be attributed to our suggest. In any application, the customer shall be responsible comply with obligations of third-party intellectual property rights. Without our consent, anyone shall not provide technical information to third parties.

### **11. Other Information**

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