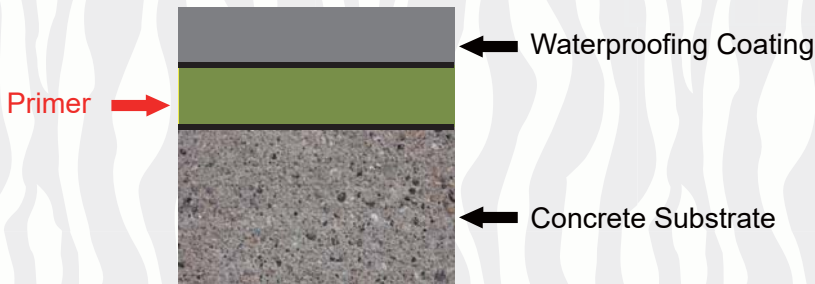


# GrowSea™ CCP

Nano-modified Cementitious Penetrating Crystalline Waterproofing Primer



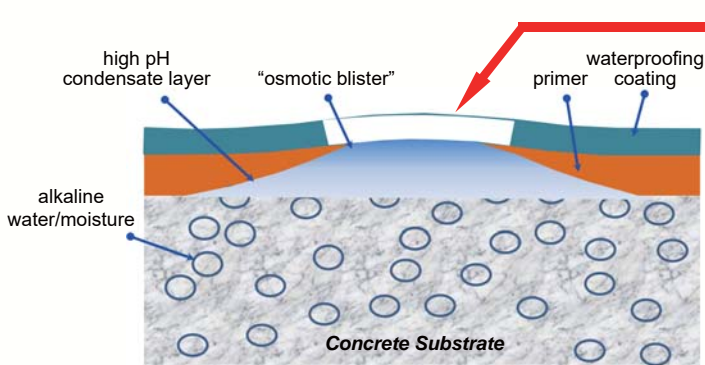
Incorporating nanotechnology into cementitious crystalline waterproofing primer



Why is the primer so important to waterproofing coating?

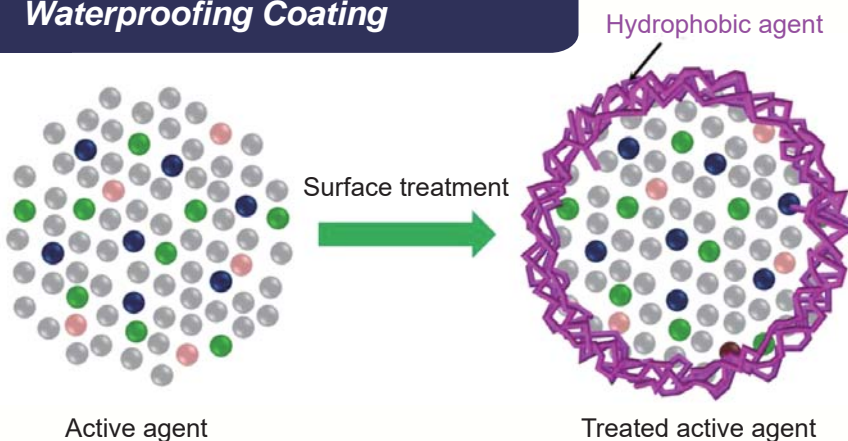
A primer is usually applied to create a stronger layer adhesion between the substrate and waterproofing coating.

However, most of the primers in the market have poor resistance against alkaline water / moisture, resulting in the blistering or debonding of top waterproofing coating.



Growseal™ CCP primer is a two component, rapid curing, waterproofing primer for consistent and durable adhesion on concrete substrate. Growseal™ CCP is especially designed to absorb into the surface of concrete substrate, filling imperfections and creating a smooth surface for receiving flexible polymer-based waterproofing coating. It can be used in area subject to hydrostatic pressure and uprising moisture.

Compatible with polymer-based Waterproofing Coating

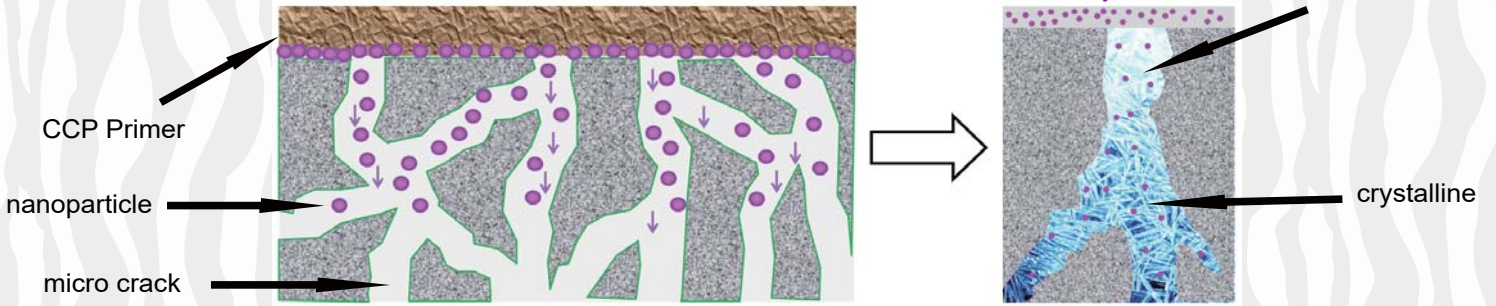


Schematic illustration of active agent surface-treated by hydrophobic agent

Low alkali corrosion

In contrast to high alkali-corrosion property of traditional penetrating crystalline materials. Growseal™ CCP Primer provide low alkali-corrosion and good compatibility with other polymer-based waterproofing materials by means of special surface treatment technology on active agents. The packed active agents can be gradually released with the decomposition of hydrophobic protective layer, so the fast pre-mature interaction of active agents with water can be hindered and low alkali-corrosion of novel Growseal™ CCP Primer can be achieved.

## Micro-cracks sealing



Can be applied on concrete substrate with uprising moisture

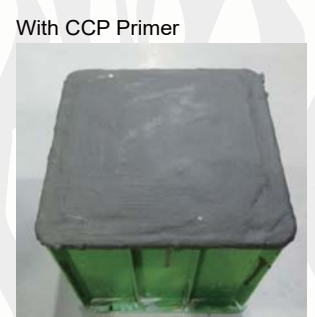
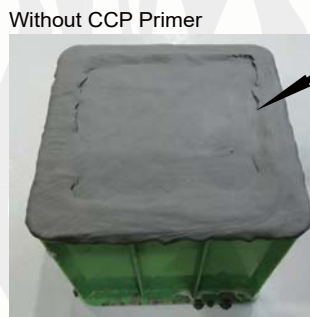


Without CCP Primer      With CCP Primer  
put into oven at 75°C for 48 hours

Waterproofing against negative water pressure



After CCP Primer was dry (~12hrs), put the specimens with/without CCP in the oven 75°C for 48 hours.



No bubble or the coating peeled off could be found on the surface of flexible polymer-based coating when CCP Primer was applied. It can be concluded that the water vapor resistance of Growseal™ CCP primer effective to prevent the surface coating from peeling off under water vapor pressure underlying the concrete.

## Consolidate dusty or friable concrete surface

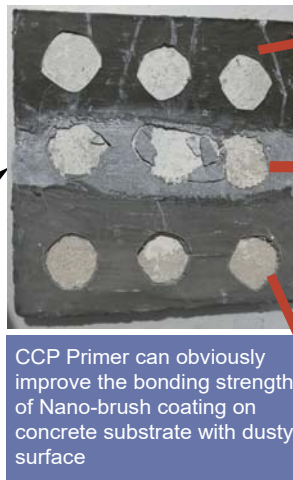
Bonding strength  
ASTM D4541



Concrete substrate with dusty surface



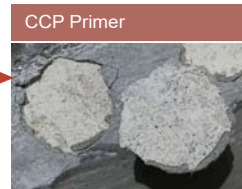
Pull-off testing



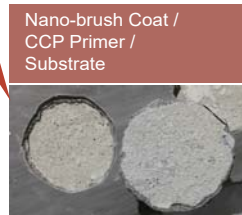
CCP Primer can obviously improve the bonding strength of Nano-brush coating on concrete substrate with dusty surface



Bonding Strength:  
0.6 ± 0.03 MPa  
Fracture interface:  
Waterproofing  
Coating / Substrate



Bonding Strength:  
1.18 ± 0.03 MPa  
Fracture interface:  
CCP Primer /  
Substrate



Bonding Strength:  
1.14 ± 0.06 MPa  
Fracture interface:  
CCP Primer /  
Substrate

For more information, please contact  
**Manufacturer & Distributor:**  
GrowTech Limited  
Flat 18, 14/F, Block A, Wah Lok Ind. Centre, 37 - 41 Shan Mei St., Fo Tan, N.T., Hong Kong  
Tel.: (852) 2305 5222 Fax: (852) 2305 5220  
E-mail: info@growseal.com Website: www.growseal.com