GrowSeal™ Nano-brush Coat

nano-modified coating offers superior Waterproofing Performance

Novel cementitious Environmental Waterproofing Coating with high flexibility and excellent adhesion.

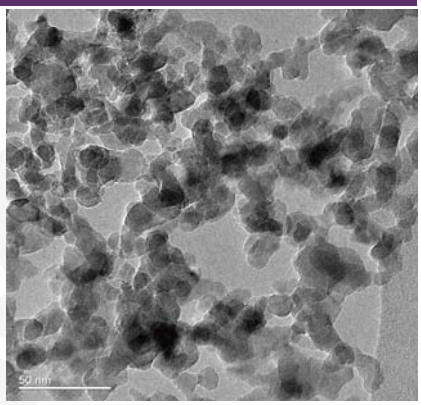
"Unique Nano Cementitious Waterproofing Coating" 45th International Exhibition of Inventions of Geneva - Silver Medal

Incorporating Nanotechnology into Traditional Cementitious Waterproofing Coating

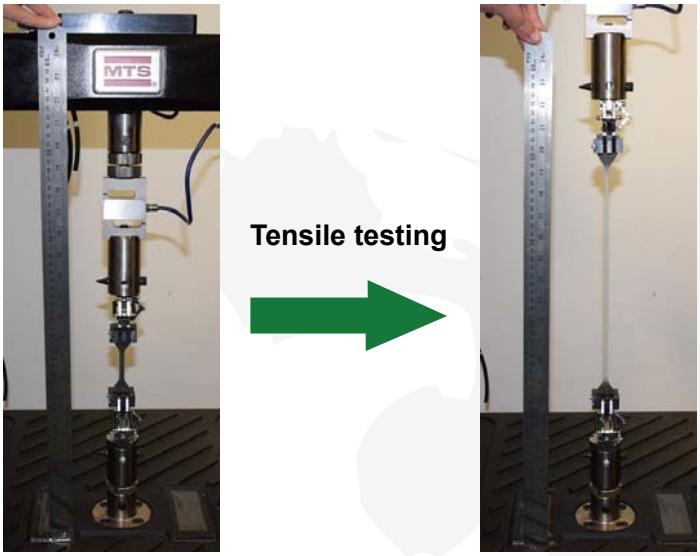
Traditional cementitious waterproofing coating has low flexibility and poor bonding strength on concrete substrate. With the help of nanotechnology, a novel cementitious waterproofing coating is developed to have high flexibility and excellent adhesion on the substrate.

Nanotechnology

Nanoparticles having at least one dimension in the nanometer range can enhance the tensile strength, ductility, adhesion and other performance when they are efficiently incorporated into a coating system with uniform dispersion. A methodology has been developed to disperse the nanoparticles in the coating in order to modify the polymer cementitious coating, achieving higher elasticity and superior waterproof performance.



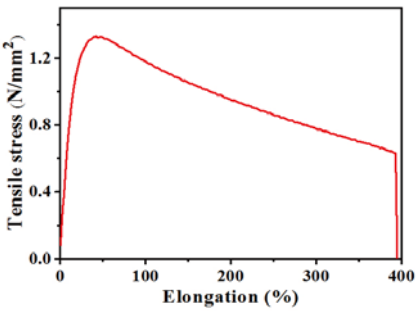
Transmission electron microscopy (TEM) image of nanoparticles.



Shapes of the specimen before and during the tensile testing.

♦High Flexibility with >300% Elongation Value

The incorporation of nanoparticles promotes a new load transferring mechanism in achieving high flexibility with good tensile strength, and thus covers minute cracks caused by various reasons.



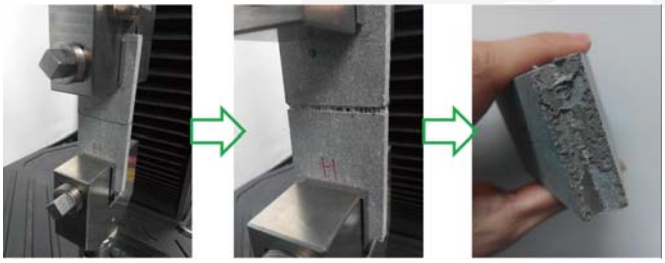
Tensile curve of one coating specimen under tensile testing condition.

♦Excellent Adhesion with Bonding Strength over 1.2 N/mm²

The presence of nanoparticles enable this new coating material to have excellent adhesion on a variety of substrates including concrete, pre-cast concrete, brick, porous stone and other masonry substrates.

Bonding strength:

> 1.2 MPa

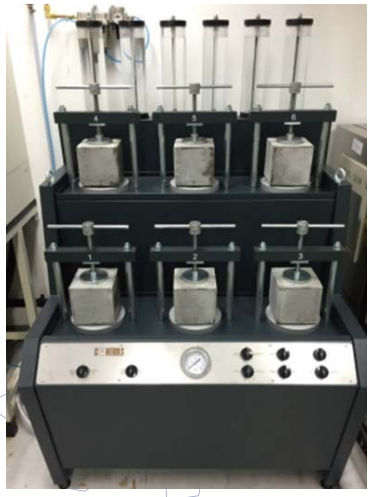


Testing Standards

ASTM D4541

Bonding strength:

> 1.2 MPa



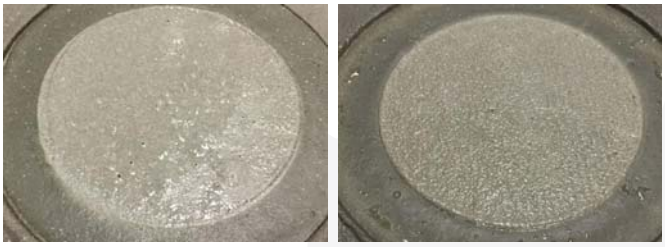
Water permeability apparatus

♦Superior Waterproof Performance (0mm Water Penetration under 5 Bar Pressure over 72 Hours)

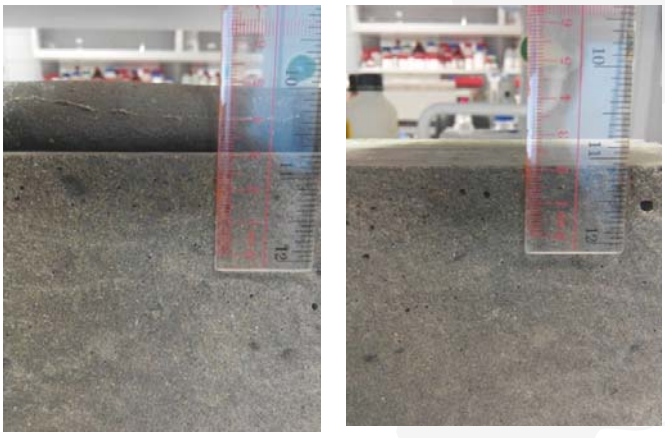
The incorporation of nanoparticles can enhance the waterproofing capability of the coating, accompanied with filling and sealing the pores of the surface covered and thus resisting hydrostatic pressure.

Investigation of depth of water penetration under 5 Bar water pressure for 72 hours. No water penetration was found.

Water permeability testing of other market-available waterproofing coatings



It is easy to find the coating blistering when the coatings are exposed to the water with pressure of 5 Bar over 72 hours.



Water penetration of other market-available waterproofing coatings.

♦Low VOC

♦Easy Application (Applied with a Brush or Roller Method)

The two-component cementitious coating materials can be easily mixed by using a common site mixer. The mixed coating materials can be applied to damp concrete surface in new construction or restoration sites.

Application

The superior performance, easy application and cost-effective features further enable the developed coating to be easily applied to various construction waterproofing fields including basements, toilets, kitchens, terraces, swimming pools, water tanks, decks and flat roofs.

- Direct application on damp surfaces.
- Adhesion to the substrate can be maintained over time.
- Excellent waterproofing qualities-able to withstand high hydrostatic pressure.
- Formation of a more solid and durable coating with good mechanical performance.
- Pre-packed - Easy to mix and apply.

Manufactured in Hong Kong.

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

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