

GrowSeal™ CCW

Nano-modified Cementitious Penetrating Crystalline Waterproofing Coating

Incorporating nanotechnology into cementitious crystalline waterproofing

Introduction

Growseal™ CCW nano-modified cementitious penetrating crystalline waterproofing coating is a surface applied, unique treatment with nanotechnology for the waterproofing and protection of concrete in depth.

Product Description

Growseal™ CCW consists of cement, quartz sand and active agents. The active agents in the powdery cementitious crystalline waterproofing material can penetrate into micropores, capillaries and shrinkage cracks derived by chemical diffusion, and then react with the incomplete hydrated cement and moisture to form insoluble crystals that integrate with the concrete to fill up the micro-cracks/voids by secondary hydration. Any presence of moisture over the lifespan of concrete will reactivate the agents to further seal up capillary tracts and hairline cracks. It has been widely used for negative side waterproofing for building and construction.

Advantage

1. Waterproof from any side i.e. positive or negative side
2. Good penetration into concrete for waterproofing
3. Excellent adhesion to dry and damp concrete surface
4. Becomes an integral part of the substrate
5. Low alkali-corrosion
6. Excellent abrasion resistance
7. Pre-packed, easy to mix and apply
8. Non-toxic / no VOCs

Recommended for

- Concrete basement walls, slabs, footings
- Elevator pits and equipment pits
- Tunnels and subway
- Sewage and water treatment plants
- Reservoirs and storage tanks
- Underground vaults and pipes



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Key Features

Waterproof against positive and negative pressured water (UASCE CRD C48)	:	Up to 14 bar water pressure
Bonding strength on concrete (ASTM D4541 & BS EN 1542)	:	≥ 1.4 MPa
Flexural strength 28days (ASTM C348)	:	≥ 5 MPa
Compressive strength 28days (ASTM C109)	:	≥ 20 MPa
Penetration depth of active agents 28days	:	> 5mm
VOC (USEPA method 24)	:	Type of regulated paint under Air Pollution Control (Volatile Organic Compounds) Regulation < 20g/L

Technical data

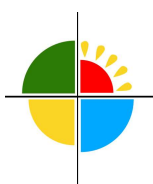
Product Type	:	Two component nano-modified cementitious penetrating crystalline waterproofing coating
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Mixed Components

Component A	:	Fine grey cementitious powder
Component B	:	Blue liquid
Mixed Ratio	:	5 parts component A : 2 parts component B
Mixed Color	:	Concrete Grey
Mixing Procedure	:	Mixing for ~ 7 minutes (e.g. 14Kg Part A + 5.6Kg Part B)

Application Data

Coverage	:	1 st Coat: 0.75mm thickness (Approx. 1.25kg/m ²) 2 nd Coat: 0.75mm thickness (Approx. 1.25kg/m ²)
Number of top coats	:	2 layers
Consistency	:	Brush
Over coating time	:	2-4 hours (Over coating time may be varied by temperature and humidity change)
Coverage mass	:	~2.5 kg/m ²



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Minimum application temperature: +8°C;
Maximum application temperature: +35°C.

Please cool down the substrate with water before application, if the temperature of substrate is over 40°C.

Add maximum 500ml deionized water into component B before mixing with component A when application under direct sun with temperature above 32°C.

Application relative humidity: 60-95%

Do not apply when raining or when rain is expected before the coating has dried.

Working life

At 20°C approx. 30 mins;

At 30°C approx. 20 mins.

Preparation of the substrate

All concrete substrate to be treated with **Growseal™ CCW** must be clean and have an “open” capillary surface. Laitance, dirt, grease, etc. can be removed by high pressure water jetting, wet sandblasting or wire brushing. Faulty concrete in the form of cracks, honeycombing, etc. must be chased out. Surfaces must be carefully pre-watered prior to the application. The concrete surface must be damp but without the presence of standing water. If concrete dries out before application, it must be re-wetted.

Mixing

Pour all liquid components (component B) into a clean dry mixing container and mix using a slow speed drill fitted with a S shaped paddle. Slowly add the powder component A into the liquid and continue to mix. When all of the powder has been added, increase the mixing speed (about 600rpm) and continue to mix for ~ 7 min to achieve a lump-free slurry. Do not mix more **Growseal™ CCW** than can be applied in 20 minutes. As the mixture thickens, stir briefly to ensure mixture remains fluid; but DO NOT ADD MORE WATER.

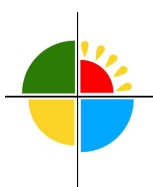
Applying Growseal™ CCW on concrete substrate

Growseal™ CCW on the substrate can be applied by brush. For normal duty, it is required to apply at least 2 coats, the second coat should be applied 2-4 hours after the first coat has reached an initial set, if the overcoating time exceed more than 12 hours, apply some water to moisturize the surface layer before continue the work. The first and the second layer should be applied in cross direction. It is help to reduce the air hole exist during the procedure. Curing by misting the coating with water should be done between coats.

Growseal™ CCW treatment must not be applied when raining or when rain is expected before the coating has dried. Avoid application of **Growseal™ CCW** coating in hot and windy conditions as the coating may dry out prematurely. The treated areas should be protected against direct sun, wind and frost, by covering with polyethylene sheeting, damp burlap or similar.

Limitation

Growseal™ CCW is an effective waterproofing system for rigid concrete structure only and may not be reliable for structure with unstable, moving cracks and joints.



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Cleaning of Tools

Tools and equipment should be cleaned directly after use with water. Do not allow this mortar to harden before removing.

Storage

Growseal™ CCW must be stored in a dry place free from contact with moisture and frost. This product has a 12 month shelf life stored in original unopened containers if kept at 10-30°C.

Packing: (14Kg Part A + 5.6Kg Part B) in one plastic bucket

Handling

Growseal™ CCW is nonhazardous, but works with cleaning and wear protective clothing. In windy conditions wear a filter mask to avoid inhaling dust. Remove splashes from skin with water and in case of eye contact wash copiously with water and if irritation persists seek immediate medical attention. For further information refer to the relevant Health and Safety Data Sheet.

We endeavor to ensure that any advice, recommendation or information we may give in product literature is accurate and correct. However, we have no control over the circumstances in which our product is used and it is therefore important that the end user satisfy himself by prior testing that the product is suitable for his specific application and that the actual conditions of use are suitable. GrowTech Limited reserves the right to change the properties of its products. Products are sold subject to our standard conditions of sale and each purchaser and end user should at all times ensure that he has consulted our latest product instructions and safety information.



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