NEXSEAL WATERPROOFING ADMIXTURE
Technical Data Sheet

DESCRIPTION

Nexseal Waterproofing Admixture is a next generation, crystalline, waterproofing admix specifically designed to be fully compatible with concrete mixes with high dosages of PCE superplasticizers and low water-cement ratios. Unlike all other crystalline products Nexseal Waterproofing Admixture will not negatively impact the strength of low w/c superplasticizer concretes and will, in fact, increase it.

Nexseal Waterproofing Admixture can be added directly to the concrete mix at the batch plant or directly into ready mix trucks on site. It works to continuously prevent moisture from penetrating through the concrete by creating a catalytic reaction within the pores and capillaries to enhance the hydration process of the cement component within the concrete. The enhanced hydration process not only provides waterproofing characteristics to the concrete, it also allows for an increased ability to self-heal micro cracking upon the presence of moisture.

FEATURES & KEY BENEFITS

- Compatible with superplasticizers (such as lignosulphonates and polycarboxylates
- Stop water leaks in concrete
- Seal and waterproof cracks up to 0.5 mm
- Protects reinforcing steel against corrosion
- Total and permanent waterproofing
- Waterproofing increases with time
- Gives concrete excellent resistance to attack by sulphates and chloride
- Not affected by surface wear or abrasion
- Effective against hydrostatic pressure up to 12 bar
- Waterproofs from any direction (positive or negative Side)
- Water vapor permeable
- Safe for contact with potable water
- Replaces unreliable exterior membranes and coatings
- Reduces water demand by approximately 8 to 12% subject to mix design
- Eliminates the use of a waterproofing sub-trade
- Continually improves impermeability benefits with time
- Will reactivate should water be present in the future
- Will increase the durability of the concrete

TYPICAL APPLICATION

- Foundation
- Basement
- Tunnels
- Pipes
- Maritime projects
- Submarine works
- Elevator pits
- Concrete walls
- Marine structures
- Swimming pool
- Water treatment plants
- Channels
- Potable water tanks
- Parking structure

APPLICATION GUIDELINES

Concrete is a naturally porous material, with microcracks, voids, pores and capillaries that are formed mainly in the early stages of curing. The more interconnection between these holes, the more permeable the concrete is and the more prone to damage caused by the entry of water and corrosive agents. **Nexseal Waterproofing Admixture** technology virtually eliminates porosity of the concrete and many of its inherent weaknesses, which increases durability.

Nexseal Waterproofing Admixture acts by hydrophilic crystallization. Through a catalytic process it creates a chemical reaction between the unhydrated cement particles and water, creating additional insoluble Crystalline hydration which fill the concrete's capillary network. These crystal deposits become an integral part of the hydrated paste. The resulting concrete has a significantly greater ability to autogenously heal cracks and resist the penetration of water under hydrostatic pressure.

Nexseal Waterproofing Admixture is a dry powder that is added directly to the concrete during mixing. The dosage rate is 1 kg per m^3 of concrete. Reduce the water component by approximately 8 to 12% to achieve equal slumps on most mix designs (subject to mix designs and raw material components). Even though the concrete will look less wet than most concrete mixes, it will provide an increased workability resulting an increased productivity. Prior testing is recommended.

Considerations for batching

- Eliminate all variables such as recycled water or recycled aggregate.
- When adding multiple admixtures to a concreate batch, do not add other admixtures at the same time as **Nexseal Waterproofing Admixture**. Add **Nexseal Waterproofing Admixture** first and premix before adding other admixtures to eliminate intermixing and interference of the other admixtures.

Batch plant – Dry batch addition instructions

Nexseal Waterproofing Admixture may be added directly to the ready-mix truck at dry batch operations. The following systems may be used:

1. Prepare a separate silo and addition system for **Nexseal Waterproofing Admixture** and add it directly to the ready-mix vehicle after the cement has been added or add **Nexseal Waterproofing Admixture** directly to the mixer or ready mix vehicle manually after the cement has been added.
2. Allow 10 minutes at high speed for mixing.
3. If slump is lower that required add water reducer or plasticizer to increase slump to the required slump

Batch plant – Central mix operation instructions

1. Prepare a separate silo and addition system for **Nexseal Waterproofing Admixture** and add it directly to the mixer after the cement has been added.
2. Mix as per mixer specification and standard practices.
3. If slump is lower than required add a water reducer or plasticizer to increase slump to the required slump.

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Job site addition instructions

Nexseal Waterproofing Admixture may be added directly at the job site.
Please note the following instructions:

1. Add **Nexseal Waterproofing Admixture** directly to the ready-mix vehicle manually at the job.
2. Allow 10 minutes at high speed for mixing before the concrete is to be placed.
3. If slump is lower than required add a water reducer or plasticizer to increase slump.

In general, **Nexseal Waterproofing Admixture** is recommended for concretes using 300 kg or more of total cementitious materials per cubic meter. Please speak with a Nexgen representative for more information regarding usage with concretes with lower total cementitious content.

DOSAGE

- Dosage is 1 kg of Nexseal Waterproofing Admixture per m³ of concrete.

PACKAGING

Nexseal Waterproofing Admixture is supplied in 20 kg pails. Available in 1 kg of water-soluble bags to be added directly to the concrete mix for easy on-site dosage and handling.

STORAGE

Nexseal Waterproofing Admixture should ne stored at room temperature (min 5°C and max 35°C), kept dry and out of direct sunlight. If these conditions are maintained and the product packaging is unopened, then a shelf life of 2 years can be expected.

TECHNICAL DATA

Colour	White
Appearance	Granular Powder
Density	1.4g/cm³
pH (Mixed with water)	13
Solids content	100%
Hydrostatic resistance	12 bar
Dosage	1 kg/m³ of concrete
Crack self-sealing	0.5 mm
Particle size	40-150 microns

HEALTH & SAFETY

This product becomes caustic when mixed with water or perspiration.

Hazard statements
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

For more information, please check the safety data sheet for this product.

DISCLAIMER

Whilst any information and/or specification contained herein is to the best of our knowledge, true and accurate, we always recommend that a trial be carried out to confirm suitability of the product, as no warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives, agents or distributors. The information in this data sheet is effective from the date shown and supersedes all previous. Please check with your office to confirm that this is current issue: (May of 2019)

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