

## Krystaline Add1



CRYSTALLINE WATERPROOFING ADMIXTURE - DOSAGE 1 kg/m<sup>3</sup>

05.03.2024

### PRODUCT DESCRIPTION:

**Krystaline Add1** is a next generation, crystalline, waterproofing admixture. It has been designed to waterproof and improve the durability of concrete using hydrophilic crystalline technology to improve the hydration of the cement paste.

**Krystaline Add1** makes the concrete waterproof, corrosion-free and self-healing. It prevents 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. Krystaline 1 eliminates the porosity of concrete and many of its natural weaknesses, thereby increasing its durability. The enhanced hydration process not only provides waterproofing characteristics to the concrete, but also allows an increased ability to self-heal micro cracking upon the presence of moisture.

### FEATURES & KEY BENEFITS:

- Stop water leaks in concrete
- Seals and waterproofs cracks up to 0.5 mm
- Protects reinforcing steel against corrosion
- Total and permanent waterproofing
- Waterproofing increases with time
- High resistance to attack by sulphates and chloride
- Not affected by surface wear or abrasion
- Effective against hydrostatic pressure up to 12 bar
- Waterproofs from positive or negative side
- Water vapor permeable
- Safe for contact with potable water
- Replaces unreliable exterior membranes and coatings
- Reduces shrinkage cracks by up to 60%
- Reduces water demand by approximately 5%
- Eliminates the use of a waterproofing sub-trade
- Continually improves impermeability benefits with time
- Increases the durability of the concrete
- Reduces carbon emissions

### TYPICAL APPLICATIONS:

- Foundations
- Basement
- Tunnels
- Pipes
- Maritime projects
- Submarine works
- Elevator pits
- Concrete walls
- Concrete slabs
- Construction joints
- Marine structures
- Swimming pools
- Water treatment plants
- Channels
- Potable water tanks
- Parking structures

### DOSAGE:

1 kg of **Krystaline Add1** per m<sup>3</sup> of concrete.

### PACKAGING:

**Krystaline Add1** is supplied in 20 kg pails.

Available in 1 kg water soluble bags to be added directly to the concrete mix for easy on-site dosage and handling.

#### APPLICATION GUIDELINES:

**Krystaline Add1** 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. The resulting concrete has a greater ability to autogenously heal cracks and resist the penetration of water under hydrostatic pressure.

**Krystaline Add1** is a dry powder that is added directly to the concrete during mixing. The dosage rate is 1 kg per m<sup>3</sup> of concrete. Reduce the water component by approximately 5% to achieve equal slumps on most mix designs (subject to mix design and raw material components). Even though the concrete will look less wet than most concrete mixes, it will provide an increased workability resulting in increased productivity. Add Krystaline Add1 directly during mixing. Prior testing is recommended.

#### Considerations for batching

- Eliminate all variables such as recycled water or recycled aggregate.
- When adding multiple admixtures to a concrete batch, do not add other admixtures at the same time as **Krystaline Add1**. Add **Krystaline Add1** first and premix before adding other admixtures to eliminate intermixing and interference of the other admixtures.

#### Batch plant - Dry batch addition instructions

**Krystaline Add1** may be added directly to the ready-mix truck at dry batch operations.

1. Prepare a separate silo and addition system for **Krystaline Add1** and add it directly to the ready-mix vehicle after the cement has been added or add **Krystaline Add1** 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 than required add a 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 **Krystaline Add1** and add it directly to the mixer after the cement has been added or add **Krystaline Add1** directly to the mixer manually 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.

#### Job site addition instructions

**Krystaline Add1** may be added directly at the job site. Please note the following instructions:

1. Add **Krystaline Add1** 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, **Krystaline Add1** is recommended for concretes using 300 kg or more of total cementitious materials.

#### STORAGE:

**Krystaline Add1** should be 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:

Color	White
Appearance	Granular Powder
Density	1.4 g/cm <sup>3</sup>
pH (Mixed with water)	13
Solid's content	100%
Hydrostatic resistance	12 bar
Dosage	1 kg/m <sup>3</sup> 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: (January 2024).

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<b>Krystaline Add1</b> EN 934-2  WATER RESISTING ADMIXTURES (at equal consistence)	
Essential requirement	Performance
Chloride ion content	≤ 0,1%
Alkali content (equivalent Na <sub>2</sub> O)	≤ 40%
Corrosion behavior	Contains only approved substances according to EN 934-1, Annex A1
Capillary absorption (g/mm <sup>2</sup> )	At 7 days: ≤ 50% At 28 days: ≤ 60%
Compressive strength at 28 days	At 28 days: ≥ 85%
Air content	≤ 2%
Dangerous substances	Anexo ZA of EN 934-2