

CIS CHEM KRYSTELINE GP 500

CEMENTICIOUS CONCRETE WATERPROOFING

PRODUCT CATEGORY: NEW CONSTRUCTION

PRODUCT DESCRIPTION

CIS KRYSTALINE GP500 is a next generation, crystalline, waterproofing admixture. It has been designed to waterproof and improve the durability of concrete using hydrophilic, hydration enhancing, crystalline technology.

CIS KRYSTALINE GP500 is added to fresh concrete easily at the batch plant or directly into ready mix trucks. 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

- 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
- Not affected by surface wear or abrasion
- Effective against hydrostatic pressure up to 12 bar
- Waterproofs from any direction (positive or negative side)
- Gives concrete excellent resistance to attack by sulphates and chloride
- Water vapor permeable
- Safe for contact with potable water
- Will increase the durability of the concrete

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. However, CIS KRYSTALINE GP500 technology virtually eliminates porosity of the concrete and many of its inherent weaknesses, which increases durability.

CIS KRYSTALINE GP500 acts by hydrophilic crystallization. Through a catalytic process it creates a chemical



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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. CIS KRYSTALINE GP500 is a dry powder that is added directly to the concrete during mixing. The dosage rate is 1 kg per m³ 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 CIS KRYSTALINE GP500 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 CIS KRYSTALINE . Add CIS KRYSTALINE GP500 first and premix before adding other admixtures to eliminate intermixing and interference of the other admixtures.

Batch plant – Dry batch addition instructions CIS KRYSTALINE GP500 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 CIS KRYSTALINE GP500 and add it directly to the ready-mix vehicle after the cement has been added or add CIS KRYSTALINE GP500 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 CIS KRYSTALINE GP500 and add it directly to the mixer after the cement has been added or add CIS KRYSTALINE GP500 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

DOSAGE

Dosage is 1 kg of CIS KRYSTALINE GP500 per m³ of concrete.

STORAGE

CIS KRYSTALINE GP500 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.

PACKAGING

CIS KRYSTALINE GP500 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.