

Crystalline Waterproofing Admixture

Description

HYDRO CRYSTON is a crystalline waterproofing admixture in a dry powder form that is added to the concrete mix at the time of batching. HYDRO CRYSTON can transform an entire concrete structure into an impermeable water barrier with lasting integral waterproofing properties. Active ingredients of HYDRO CRYSTON react with moisture to form crystals deep within the pores and capillary tract of the concrete structure. Used to waterproof both the interior and exterior of building, HYDRO CRYSTON prevents concrete decay and protects against moisture transmission, chemical attack and corrosion of reinforcing steel.

Features & Benefits

- HYDRO CRYSTON is a permanent, non toxic product that is highly resistant to aggressive chemicals.
- An integral waterproofing system that is a permanent solution.
- The product can be added to concrete at the time of batching and is therefore not subject to climatic restraints.
- Process friendly and increases flexibility in construction scheduling.
- The product is ideal for concrete exposed to harsh conditions and enhances the durable properties of concrete as it protects the concrete from waterborne soluble salts.
- HYDRO CRYSTON can be used for positive and negative waterproofing of a structure.
- Gives concrete crack sealing characteristics, it can seal hairline crack up to 0.4 mm wide.

Area of Application

- Sewerage and water treatment plants
- Tunnels

- Dams
- Precast structures
- Reservoirs
- Underground structures
- Precast components
- Foundations
- Swimming pools

Application

- As site conditions and temperature variations commonly occur, DUBOND's technical department is readily available to tailor make mix designs and dosages according to a customer's requirements.
- HYDRO CRYSTON is added to concrete during the batching process. Directions may vary according to the type of batch plant operation and equipment used.
- The recommended dosage rate is between 0.8% and 1% of the cement weight.
- Ready-mix plant wet – the ratio must be 18 kg HYDRO CRYSTON to 8.1 litres of water or 25 kg of HYDRO CRYSTON to 11.3 litres of water – this will form a slurry. Add to the wet concrete that is being batched in the truck to the required dosage of 0.8 or 1%. Batch the concrete as normal good practise requires, keeping in mind that the amount of water added to the HYDRO CRYSTON slurry should be subtracted from the batching water that needs to be added. Mix for at least five minutes in order to make sure that HYDRO CRYSTON is evenly distributed throughout the mix. Ready-mix plants dry-add HYDRO CRYSTON directly to the drum of the dry mix truck and then thoroughly mix the admixture with half of the required aggregate. Add the water, making sure that the product is distributed evenly throughout the mix water. Add the remaining half of the water and aggregate. Precast – Add HYDRO CRYSTON to coarse aggregate and fine aggregate and then mix thoroughly for 2-3 minutes before adding cement and water.
- The total quantity of the water to be added into the design mix should take into consideration the moisture content of both coarse and fine aggregates.
- The aggregate, cement and water should be batched according to standard practices.

Technical Details

Colour	Grey
Specific gravity @ 25°C	1.3 Bulk
Physical state	aggregated powder
Alkali content	< 0.35% Na ₂ O
PH (working dilution)	> 12
Solubility of preparation in water:	Partially soluble

Final Characteristics

Appearance	Without	With
Initial setting time (minutes)	126	133
Final setting time (minutes)	188	186
3days compressive strength (Mpa)	27.4	27.7
7days compressive strength (Mpa)	42.3	44.8
Permeability to water, %(v/v) of control mix	100	21
Free chloride content, %(w/w)	N/A	0.02 (Max. 0.1% declared)

Precautions & Limitations

- In order to achieve a homogenous mix, never add the dry powder of HYDRO CRYSTON into a wet mix. This is because the HYDRO CRYSTON powder will not disperse properly within the mix.
- Before adding HYDRO CRYSTON, make sure that the concrete temperature of the mix is above 5°C.

Health and safety

HYDRO CRYSTON may cause significant irritation if splashed in or has any contact with a person's eyes – hold the eyelids open and wash thoroughly

with water.

HYDRO CRYSTON may cause significant skin irritation. Should the product have any contact with the skin, wash the affected area with soap and water. Obtain medical attention if irritation persists.

Storage

HYDRO CRYSTON will have a shelf life of 12 months, if stored in an unopened bag in a cool & dry place.

Packaging

18 kg & 25 kg