

KrystalMix Admix

INTEGRAL WATERPROOFING & DURABILITY ADMIX BY CRYSTALLIZATION

Description: KrystalMix Admix is a high grade easy-to-handle integral waterproofing and durability admixture for concrete improvement. Concrete is protected against corrosion and positive & negative water ingress by increasing its durability. Distinctive nanotechnology and reactive chemicals react with cement matrix by permanently sealing pores and capillaries. The reaction between KrystalMix Admix and cement paste results in a non-soluble crystalline structure throughout the concrete structure by becoming an integral part.

Application: Used for all types of cement-based structures like basements, water tanks, roofs, reservoirs, dams, wastewater plants, swimming pools, water treatment plants, tunnels, marine structures etc.

Advantages:

- Seals hairline cracks and microcracks up to 0.5 mm
- Facilitates Concrete waterproofing throughout
- Improves durability
- Enhances hydration process
- Improves workability and strength
- Reduces installation costs, seams or joints
- Act as an Integral waterproof
- Protects against Chloride and sulphate ingress
- Withstands hydrostatic pressure
- Permeability Reducing Admixture for Hydrostatic conditions (PRAH)
- Improves carbonation and chemical resistance
- Helps in Permanent waterproofing
- Reduces opportunity for freeze-thaw damage
- No costly surface preparation, and is non-toxic
- Added to concrete not constrained by weather conditions
- Reduces ASR – Alkali-Silica Reaction

Typical Properties @ 25°C

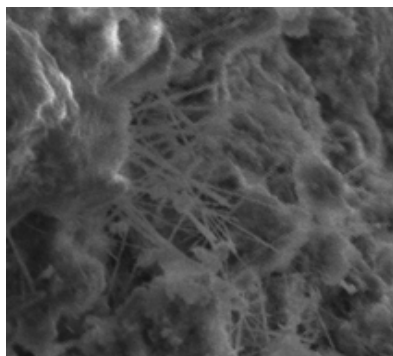
Properties	Standard	Values
Colour & Appearance	Visual	Grey Powder
Bulk Density	Visual	Approx. 1.3-1.4 g/cm ³
Initial & Final Setting time	ASTM C 191 -08	Not more than 25% of Control
Compressive Strength	ASTM C 109 – 02	> 90% of Control
Water Permeability (5 bar)	DIN 1048 -5	> 40% reduction
Air Content	ASTM C 231-08	< 2%
Chloride Content	ASTM C 144 -09	< 2%
Sulphate resistance	ASTM C1012 – 12	No expansion

Note: Testing was performed under laboratory conditions.

Other compliance:

- ASTM C494 – S (Specific Performance Admixture)
- BSEN 934 – 2
- ACI – PRAH
- CRD C48

Scanning Electron Microscope (SEM) – Analysis of concrete treated with crystalline KrystalMix Admix. Crystal growth were observed when examined and magnified between 500x and 5000x. Voids sealing with non-soluble self-healing crystals.



Direction for Use:

Dosage rate: KrystalMix Admix is typically dosed at 0.7 -1.5 % by weight of total cementitious material depending on the application. Please consult our local KrystalMix Technical representative for further higher dosage recommendations.

Note: KrystalMix Admix should be tested in trial mixes to determine the optimum dosage and for any necessary changes. KrystalMix Admix generally does not alter or have minimal effect on workability, slump retention and retardation. However, as various other factors are involved it is advisable to conduct trial mixes before any conclusion. KrystalMix Admix shall react with all types of Portland cement, fly ash, and GGBS. It is advisable to conduct pre-trials to arrive optimum dosage.

Mixing:

RMC / Precast industry: KrystalMix Admix must be added to the concrete at the time of batching. The sequence of procedure for addition may change depending upon the type of batching plant.

Truck Addition (At Site): KrystalMix Admix can be added at the site into the mixing drum of the concrete truck mixer. After addition, the truck mixer should be mixed properly at high speed for 2-5 min. Ensure uniform mixing is done and verify other properties before pumping the concrete.

Cement Mortars / Plasters: KrystalMix Admix can be added to pre-mixed plasters or sand-cement mortar mixes to enhance and improve the properties and increase the durability of the Product.

Test Data:

Chemical Resistance: Sulphuric acid test resistance shows a significant improvement in percentage weight loss and concrete deterioration when compared to the control. Resistant to alkali/acid conditions pH range 3-11.

Sulphate Resistance: Sulphate resistance is significantly improved when measured by both weight loss and length gain when compared to control.

Freeze-Thaw Resistance: When measured to ASTM C666-97 Freeze Thaw Durability the treated concrete showed a marked reduction to attack over the control mix.

Rapid Chloride Penetration Test: Chloride diffusion is reduced significantly when measured according to ASTM C1202

Potable water compliance, NSF 61(USA): No harmful effects in potable water contact

Limitations: When incorporating KrystalMix Admix, the temperature of the concrete mix should be above 40°F (4°C).

Packaging: KrystalMix Admix is available in 22 lb (10 kg) and 55 lb (25 kg) bags or plastic pails. For larger projects and bulk volumes, customized packaging is available.

Storage/Shelf Life: KRYSTALMIX products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is 24 months when stored under proper conditions.

Technical Services: For more detailed instructions, alternative application methods, or information concerning the compatibility of the KRYSTALMIX treatment with other products or technologies, contact the KrystalMix Technical Department or your local KrystalMix representative.

Safe Handling Information: KrystalMix Admix is alkaline. As a cementitious powder, liquid or mixture, KrystalMix Admix may cause significant skin and eye irritation. KrystalMix LLC also maintains comprehensive and up-to-date Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of your employees and customers. KEEP OUT OF REACH OF CHILDREN. Contact KrystalMix LLC or your local KrystalMix representative to obtain copies of Safety Data Sheets prior to product storage or use.