

# CRYSTAL ADMIX HD

## OVERVIEW

Crystal Admix HD is a next generation crystalline admix designed to enhance concrete by effectively waterproofing the concrete, dramatically increasing strength and reducing the shrinkage cracks. Crystal Admix HD often eliminates the need for super plasticizers by providing high plastic qualities and abilities as part of its unique crystalline waterproofing abilities. It is a cost-effective solution to membrane systems while increasing concrete's durability. Crystal Admix HD 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 chemical 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

- Is a permanent, one time only application for the life of the concrete
- Is user friendly and easy to apply
- Is added directly to the fresh concrete during mixing or premixed with cement powder

## ADVANTAGES

- Will reduce shrinkage cracks by up to 60%
- Will reduce water demand by 10 to 16%
- Will eliminate the use of a waterproofing substrate
- Will continually improve waterproofing benefits with time
- Will assist concrete in the hydration process
- Will protect against water penetration through micro-cracks by autogenously healing future micro-cracking
- Will reactivate the waterproofing mechanism should water be present in the future
- Will increase the durability and sustainability of the concrete
- Will protect against cracking and spalling
- Will stop water penetration into the concrete
- Will provide the best quality to cost ratio in the industry
- Will eliminate the need for any other waterproofing system

## BENEFITS

- Protection of reinforcing steel against chemical attack
- Protection against deterioration of the concrete due to waterborne chemical attack
- Protection against deterioration of the concrete due to AARI ASR
- Protection against deterioration of the concrete due to cast in contaminants
- Protection against deterioration of the concrete due to carbonization
- Protection against heavy hydrostatic pressure
- Protection against deterioration due to freeze/thaw environments

## RECOMMENDED FOR

- Tunnels and subway systems
- Parking garages
- Sewage and water treatment plants
- All below grade concrete foundations
- Water towers and water reservoirs
- Swimming pools
- Rooftops
- Dry vaults / Basements
- Marine structures
- Pipes
- Bridge decks
- Concrete walls and floor

## APPLICATION

Crystal Admix HD is a dry powder that may be added directly to the wet mix concrete during batching or added directly to the ready-mix truck prior to arrival at the site or at the site. The dosage rate is 1 kg per 100kg of cement (see Dosage). Reduce the water component by 10 to 16%, to offset increased slump and workability. Mix for 10 minutes at high speed before placing to insure a thorough mix. Should a superplasticizer be required, add it after the addition of the Crystal Admix HD. Do not add water to the mix to increase slump. Place the concrete within 45 minutes to utilize the maximum benefits of flow and placement values. Avoid early finishing and over trowelling.

## NOTES

- Crystal Admix HD may delay initial and final set times.
- Crystal Admix HD is free of oils, stearates, chlorides, sodium and silicate-based materials.
- Crystal Admix HD may not always be compatible with polycarboxylate plasticizers and should be batch tested before use with them.

## PHYSICAL PROPERTIES

Color	grayish brown
Appearance	granular powder
Max Particle Size	max 0.297
Solids	100%
Bulk density	1.0
PH	13

## CURING

Standard concrete wet curing procedures.

## DOSAGE

Dosage is approximately 1% of cement content.

## NOTE

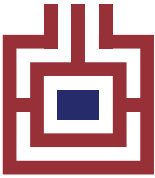
- Crystal Admix HD is measured to the cement and cementitious components such as fly ash and silica fume only and is not measured to the full concrete design.
- The dosage rate may be reduced subject to the type of pozzolanic materials used and design mix.

## PRECAUTIONS



This material becomes caustic when mixed with water or perspiration. A void contact with skin or eyes. In case of skin contact, wash with soap and water. Flush eyes immediately with warm water for several minutes. If ingested, do not induce vomiting. If victim is alert, give two glasses of water. Avoid breathing dust. Wear long sleeves, eye goggles and a dust mask. See the material safety data sheet for this product.

## PACKAGING

18kg buckets



# DECLARATION OF PERFORMANCE

Declaration of Performance (DoP) according to Annex III of the Regulation (EU) No. 574/2014		
1. Unique identification code of the product-type: Crystal Admix HD		
2. Intended use/es: SPECIFIC REQUIREMENTS FOR WATER RESISTING ADMIXTURES (at equal consistence) according table 9 of the standard EN 934-2:2010+A1:2012		
3. Manufacturer: Concrete Aqua Guard Ltd Teelin Rd, Carrick Co. Donegal,  Ireland		
4. Authorised representative:  Not Relevant		
5. System/s of AVCP:  System 2+		
6a. Harmonised standard:  EN 934-2		
Notified body/ies:    performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control under system 2+ and issued Certificate of conformity of the Factory Production Control (FPC) 1170/CPR/ER.03608		
7. Declared performance/s		
Essential requirement	Performance	Harmonized technical specification
Chloride ion content	≤ 0,1%	EN 480-10
Alkali content	≤ 17%	EN 480-12
Corrosion behavior	Contains only approved substances according to EN 934-1:2008 Annex A1	EN 480-14
Compressive strength at 7 days	≥ 85% above reference concrete	EN 12390-3:2009/AC:2011
Air content in the fresh concrete	≤2% above reference concrete	EN 12350-7:2010
Capillary absorption (g/mm <sup>2</sup> )	At 7 days (≤50%) At 28 days (≤60%)	EN 480-5:2006
Dangerous substances	NPD	See material safety data sheet
The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.		
Signed for and on behalf of the manufacturer by:		
		
Padriag Carr, TECHNICAL DIRECTOR In Donegal, on June 26, 2018		