

HYGROSMART -ADMIX®

Product Data Sheet

Crystalline Waterproofing Concrete Admixture **Description**

HYGROSMART ADMIX® is an easy to use crystalline waterproofing concrete admixture which is a blend of cement, very fine treated silica sand in combination with proprietary very active chemical derivatives in dry powder form. **HYGROSMART ADMIX®** is mixed in to the concrete either at the batching plant or on site in the truck mixer drum. When **HYGROSMART ADMIX®** is mixed with concrete, it initiates a crystalline reaction in concrete which takes place in the presence of water – with free lime present in the concrete creating Nano crystals non-soluble, which in turn fills pore, capillaries and static cracks resulting in permanent reduction of water permeability. The crystalline effect allows the structure to self heal shrinkage cracks whilst allowing the concrete to breathe.

 **Features & Benefits**

- Resistance to extreme positive and negative pressure.
- Quick and easy application-One component
- Completely Integral Waterproof
- Self healing properties to treated concrete of up to 0.4mm static cracks.
- Increased final strength
- Slightly Hydrophobic.
- Little influence on concrete setting and strength development.
- Increased resistance against aggressive chemicals
- Approved to use in Potable water tanks
- Resistance to rising humidity due to underground water.
- Resistance to sea water and sewage
- Allows concrete to breathe

 **Recommendation For**

- ✓ Concrete structures exposed to humidity.
- ✓ Basements and below grade parking concrete structures
- ✓ Sewage structures
- ✓ Raft/ Grade slab waterproofing (Dry shake application)
- ✓ Lift / elevator Pits
- ✓ Tanks and reservoirs.
- ✓ Tunnels & Subway Systems
- ✓ Foundation & Swimming pools
- ✓ Potable water structures.

 **Application Method**

- **Concrete requirements:-** Waterproof concrete requires several measures to ensure a dense structure.
- **Cement:-** **HYGROSMART ADMIX®** can be used with most CEM I-III R and (ASTM Type 1- V) cements. Only cement types with more than 50% Pozzolanic content are not suitable.
- **Fly ash:** Total fly ash must be less than 50% of the cement content.
- **Water:** Potable water quality with maximum dosage of 55% on cement content (Water cement ratio < 0.55)

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- **Pozzolans:** Pozzolanic additives like micro silica or slag should be avoided as they compete with **HYGROSMART ADMIX®** for available lime.
- **Admixtures:** **HYGROSMART ADMIX®** is compatible with most concrete admixtures. (For compatibility of **HYGROSMART ADMIX®** trial mixes are strongly recommended.)
- **Processing:** The dosage depends on the amount of cement content. It is dosed 0.8 % by weight of cement. Consult Alchimica technical team for assistance in verifying the appropriate dosage rate for specific project requirement.
- **Batching Plant:** Add **HYGROSMART ADMIX®** together with aggregates and followed by normal mixing procedure.
- **Concrete Truck:** **HYGROSMART ADMIX®** is added in to the drum in slurry form by mixing admix with water (60-70%) when the truck arrives at the job site. Mix minimum for 2-3 minutes to ensure the homogenous mix of admix before pumping. Trial mixes with the concrete design mix are strongly recommended for this application.
- **Site Mixes:** Concrete mixed in small tumbler mixers can also be improved with **HYGROSMART ADMIX®**. As the mixing intensity is lower, we recommended producing slurry of **HYGROSMART ADMIX®** (25Kg) with (31.54 l) of water to ensure proper mixing results.
- **Placing:-** Concrete can be placed as specified. Take special care of the compaction by properly vibrating the placed concrete, Install joint waterproofing solutions from our **HYGROSMART JOINT TREATMENT** in any cold or construction joints.
- **Curing:** Follow standard curing procedures for the site conditions. Take the required steps by either water curing as specified or Applying curing compound.
- **Cleaning:** **HYGROSMART ADMIX®** can be removed in the fresh state with water. Once it has cured acidic cleaners

 **Safety**

HYGROSMART ADMIX® is alkaline. It may cause significant skin and eye irritation. Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the problems.

MSDS (Material Safety Data Sheet) for the product is available on request.

General Information

Concrete treated with **HYGROSMART ADMIX®** may discolor or show strong efflorescence in water contact. This is normal and caused by the crystalline reaction.

 **Storage**

HYGROSMART ADMIX® can be stored in unopened original packs for 12 months, when stored in dry place protected against direct sunlight.

 **Packing**

HYGROSMART ADMIX® is available in two pack sizes :

- 18 Kg Plastic Pails
- 25 Kg water tight plastic bag

For more information on Hygrosmart range of products and application methods

Please contact Alchimica Technical Service at info@alchimica.co.in

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