

# HS Shalicrystal 100



## Crystallisation Admixture Waterproofing

### Description

**HS Shalicrystal 100** is a waterproofing cementitious hydrophylic admixture, which integrates with concrete through crystallization process. **HS ShaliCrystal 100** reacts with water to form a non-soluble crystalline material throughout the capillary voids in the concrete.

**HS Shalicrystal 100** is highly resistant to water and performs well even under extreme conditions in aggressive chemicals.

It complies the requirement of ACI 212.3R-10 and falls in the category of PRAH. It complies ASTM C 215

### Characteristics

Properties	Method	Result
Water permeability test under 0.5MPa pressure k (Co-efficient of permeability), m/sec Controlled Sample ShaliCrystal 100 Treated Sample	DIN 1048-5	> 75% reduction  36.4X10 <sup>-12</sup> 7.24X10 <sup>-12</sup>
Water penetration test, 50% improvement • Untreated • Treated	DIN 1049-1991 part 5	30 15
Compressive strength, N/mm <sup>2</sup> • 7 days • 28 days	ASTM C 94M	56.8 67.0
Water content, %	ASTM C 494	0.88 ± 0.01
Chloride content, %	BS 5075 : Part 1	0.07 ± 0.01
Total Sulphur content %	ISO 638	0.23
Air content, %		3.4
Rust (Corrosion) effects to steel bars		No rust
Pot life, minutes		30
Sulphate resistance, % improvement (6 months)	ASTM C 1012	33 ± 2
Capillary absorption, % reduction	ASTM C 1585	> 40

### Application

- Ground beams floors / Roof gardens.
- Cement sand screed / plaster.
- Underground retaining walls.
- Foundations & basements.
- Tunnels.
- Concrete piers.
- Water bodies like reservoirs / dams / water tanks / swimming pools etc.
- Sewage tanks.
- Concrete expose to sea water.
- Roof Slabs.

### Advantages

- Non-toxic and is approved for potable water use.
- Highly resistant to water pressure and aggressive chemicals.
- Can be used for most concrete structure.
- Can be used as an additive agent to cement grout and cement sand.
- No special protective system is required.
- Resists extreme water pressure up to 15 Bars.



- will form a non-soluble crystalline when comes into contact with water.
- Crack healing capacity up to 0.5mm

## Application Methodology

### ➤ Processing

- The dosage depends on the amount of mixing water including aggregate moisture in the batch mix. Add 2.1 Kg of **HS Shalicrystal 100** per 300 Kg of cement to make concrete grade M30.
  - **Batch Plant:** Add **HS Shalicrystal 100** after cement, sand and aggregates are added to the Batching Plant. Use normal mixing procedure.
  - **Concrete Truck:** The same method is applied when it is mix into Concrete Mixing Track.
  - **Site Mixes:** Concrete mixed in small tumbler mixers can also be improved with **HS ShaliCrystal 100**. As the mixing intensity is lower, we recommend producing a slurry of **HS Shalicrystal 100** with 100- 200% 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 in any cold joints or construction joints.

### ➤ Curing

- Follow standard curing procedures for the site conditions. Take the required steps by either water curing as specified or applying a curing compound.

## Health & Safety

- Avoid contact with skin / eyes and avoid swallowing.
- Ensure adequate ventilation and avoid inhalation of vapour.
- Wear suitable protective clothing, gloves and eye protection.
- In case of skin contact, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent to clean the contacted area.
- In case of eye contact, wash with plenty of clean water and seek medical advice.
- If swallowed, seek medical attention immediately. Do not induce vomiting.

## Packing

Available in 30 Kg pack

## Storage

Store in a cool dry place under shed away from heat.

## Shelf Life

12 months in original unopened sealed condition.

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**SCIENTIFIC WATERPROOFING SOLUTIONS**