

ShaliCrystal® 100

Crystallisation Admixture Waterproofing



STP Limited

Description

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

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 ⁻¹² 7.24X10 ⁻¹²
Water penetration test, 50% improvement • Untreated • Treated	DIN 1049-1991 part 5	30 15
Compressive strength, N/mm ² • 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 **ShaliCrystal® 100** per 300 Kg of cement to make concrete grade M30.
 - **Batch Plant** : Add **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 Truck.
 - **Site Mixes** : Concrete mixed in small tumbler mixers can also be improved with **ShaliCrystal® 100**. As the mixing intensity is lower, we recommend producing a slurry of **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.



STP Limited
Enhancing Structures' Life

Product Range

- Waterproofing and Insulation
- Sealants and Additives
- Protective / Anti-Corrosive Coating
- Grouts / Admixtures
- Other Construction Chemicals
- Road Surfacing
- Pipeline Coating
- Epoxy Flooring
- RestoFix- Repair / Rehabilitation



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