

ShaliCrystal® 100

Crystallisation Admixture Waterproofing



Description

ShaliCrystal® 100 is a waterproofing cementitious hydrophilic admixture, which integrates with concrete through crystallisation 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 - 2010 and falls in the category of PRAH. It complies with ASTM C 215.

Characteristics

Properties	Method	Result
Water Permeability Test under 0.5 MPa pressure, k (co-efficient of permeability), m / sec <ul style="list-style-type: none">Control SampleShaliCrystal® 100 Treated Sample	DIN 1048 - 5	> 75% reduction 36.4 x 10 ⁻¹² 7.24 x 10 ⁻¹²
Water Penetration Test, 50% improvement <ul style="list-style-type: none">UntreatedTreated	DIN 1049 - 1991 Part 5	30 15
Compressive Strength, N / mm ² <ul style="list-style-type: none">7 days28 days	ASTM C 94 M	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
Hydrostatic Pressure @ 16 Bar	IS 2645	Passes

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

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.

> 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

- **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.

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 25 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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Product Range

- Waterproofing and Insulation ■ Road Surfacing
- Sealants and Additives ■ Pipeline Coating
- Protective / Anti-Corrosive Coating ■ Epoxy Flooring
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