

ShaliCrystal® 200

Cementitious Crystallization Waterproofing



STP Limited

Description

ShaliCrystal® 200 is a concrete waterproofing system formulated from portland cement, fine quartz sand and active chemicals. It is a crystallisation product that offers durable waterproof protection to concrete. When applied, it penetrates into the structure and becomes an integral part of the concrete, creating a completely waterproof barrier from within to the external surface of the structure.

ShaliCrystal® 200 is ready to mix with water and applies as slurry or mortar consistency. It can be conveniently brushed, sprayed or broadcasted to various concrete structures and surfaces.

Characteristics

Properties	Standard	Result
Water Penetration Test, mm <ul style="list-style-type: none">• Untreated• Treated	DIN 1048 - 1992	51.3 18.7
Flexural strength, 28 days, N / mm ²	ASTM C 348 - 86	5.05
Tensile strength, 28 days, N / mm ²	ASTM C 190 - 85	2.42
Compressive strength, 28 days, N / mm ²	ASTM C 109	57.5
Toxicity test	BS 6920 Part 1:2000 / WRAS	Non-toxic
Average water vapour transmission rate, g / hr.m ²	ASTM E 96 - 94	11.773
Water permeability test under 16 bars (Coefficient of permeability, k in m / sec)		5,214 x 10 ⁻¹²
pH, 29.9°C		11.25
VOC, g / L	BS EN ISO 11890 - 2 : 2006	< 2
Chemical resistance	ASTM C 267-01 - 2012 (Method B)	Pass
Scaling resistance	ASTM C 672-01 - 2012 (Method B)	No defect
Pot life, minutes		30

Application

- Water tanks / Sewage Tank / Reservoirs.
- Swimming pools.
- Concrete slab.
- Tunnels.
- Planter box.
- Retaining Walls / Balconies.
- Water treatment structures.
- Lift pits.
- Wet areas-toilet & bathroom.
- Underground shafts.
- Foundations & basements.
- Fish Ponds.

Advantages

- Waterproof - Prevents surface problems, e.g., fungus growth, cracking and able to withstand positive and negative water pressure
- Cost Effective - Repair and rehabilitate old and problematic concrete by sealing off hairline cracks.
- Corrosion Inhibition - Removes moisture in concrete by reacting with it, thus reducing or eliminating corrosion of reinforcing steel in the concrete.
- Wide Performance Window - Easy application and suitable for various construction structures and sites.
- Protection - No special protective system is required.
- **ShaliCrystal® 200** penetrates deeply and seals concrete capillary tracts or shrinkage cracks up to 1 mm.
- Can be applied from positive or negative side. It can be applied to moist or concrete that has set but yet to be hardened.
- Increase resistance to frost, weathering, salt water, aggressive ground water and many chemicals.
- **ShaliCrystal® 200** permits the concrete to breath, eliminating water vapour from building-up thus leaving the concrete completely dry.
- **ShaliCrystal® 200** is non-toxic and is approved for potable water use.

Application Methodology

> Surface Preparation

- Harden concrete must be prepared with sand blasting, shot blasting or ideally high-pressure water blasting.
 - Ensure that the surface must be free from oil, grease, paint, loose dust, mud and laitance.
 - Active water leakage must be treated and fully stopped with ShaliGrout IP.
 - Fill all the blow holes, honeycombs or other surface defects with **ShaliFix® FRM**.
 - Allow it to dry for 72 hrs.
 - Dampen the substrate with clean water to a SSD condition before application of **ShaliCrystal® 200**.
- Cold joints can be treated by chiseling out approximately 5 cm concrete in a “U” shape around the joint. Cover the opening with ShaliFix RM before application of **ShaliCrystal® 200**.
- Fresh concrete can be treated with **ShaliCrystal® 200** in a dry shake application. The concrete must have sufficiently hardened that a mechanical trowel can work on it. No curing agent should be used. Before application of **ShaliCrystal® 200**.

> Material Preparation

- Mix 2.5 parts of **ShaliCrystal® 200** into one part of water by volume and mix thoroughly at least 3 minutes with a slow speed drill until a lump free mix is obtained. May use less water to get mortar consistency.

> Application of Material

• **Brush Application**

- In case of Brush Application, apply first coat of **ShaliCrystal® 200 @ 0.75 kg / m² / coat**.
- Allow it dry for minimum 90 minutes.
- Apply second coat in a perpendicular to the first coat at the same rate of 0.75 kg / m².

• **Spray Application**

- In case of Spray Application, apply first coat of **ShaliCrystal® 200 @ 1.00 kg / m² / coat**.
- Allow it dry for minimum 12 hrs.
- Apply second coat in a perpendicular to the first coat at the same rate of 1 kg / m².
- In case of spray application, excess air pressure may cause bouncing of **ShaliCrystal® 200** specially on vertical surface. The bouncing back material should be discarded.

• **Dry Sprinkle Application**

- In case of Dry Sprinkle Application, apply **ShaliCrystal® 200 @ 1.25 - 1.50 kg / m²**.
- Allow it dry for minimum 90 minutes.
- Apply power floating to level the surface.

> Spray Machine Specification

- Atomising pressure 3000 psi.
 - Pump : 3 L / minutes at 2500 - 3000 psi.
 - Filter : Remove filter and screens.
 - Nozzle type : Minimum 535.

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

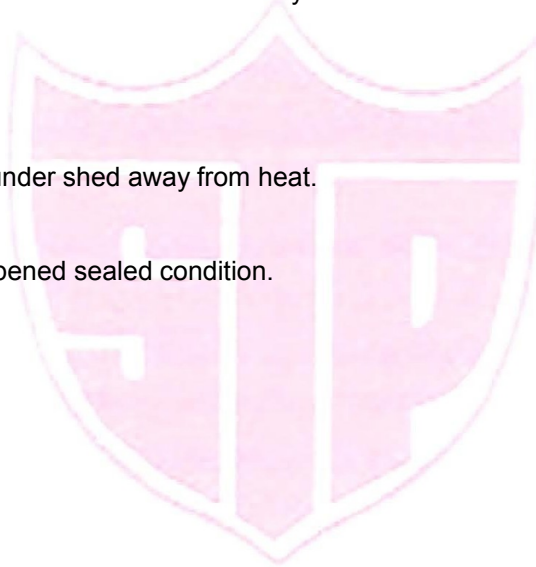
Available in 30 kg bag.

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 & Insulation
- Road Surfacing
- Sealants & Adhesives
- Pipeline Coatings
- Protective/Anti-Corrosion Coatings
- Epoxy and Flooring
- Grouts and Admixtures (GARA)
- RestoFix - Repair/Rehabilitation
- Other Construction Chemicals



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