

REC SEAL 0091

Crystalline, Deep penetrative capillary Waterproofing system

DESCRIPTION

REC SEAL 0091 contains moisture activated additives that plays major role as catalyst in the formation of water-insoluble crystalline micro structure deep within the capillaries & interstices of cementitious matrix of concrete and mortar. As the crystalline capillary waterproofing system enables effective pore sealing, it does not rely on film formation on the surface and is not affected by the negative hydrostatic pressure.

PROPERTIES

REC SEAL 0091 provides:

- **Permanent waterproofing:** Seals water-bearing capillaries and interstices, effectively preventing further water ingress and providing long-term watertight protection.
- **Integral protection:** Becomes an integral part of the concrete structure and will not peel, delaminate, or wear away under normal service conditions.
- **Protection against corrosion:** Helps protect concrete and reinforcement from corrosive waterborne substances.
- **Self-reactivating crystalline action:** The crystalline reaction can reactivate when exposed to moisture, providing additional long-term protection.
- **Positive and negative pressure resistance:** Effective against water pressure from both the positive and negative sides of the structure.
- **Non-toxic and non-tainting:** Suitable for applications where these properties are required, subject to the applicable regulations and intended use.

SCOPE OF USE

WATER RETAINING STRUTURES such as:

- Water tanks / towers.
- Reservoirs
- Swimming pools
- Water Treatment Works
- Dams
- Canals
- Harbors
- Concrete Pipes
- Bridge Decks
- Jetties
- Pontoons

WATER EXCLUDING STRUTURES

- Basement
- Tunnels
- Inspection Pits
- Foundations
- Retaining Walls
- Construction Joints
- Sea defense wall.

TECHNICAL INFORMATION

Type	C2
Type	Cementitious waterproofing system
Physical state	Powder

Color	Grey
Coverage	1kg / m ² per coat
Recommended Coats	Minimum two coats

INSTRUCTIONS FOR USE

• New Construction

The majority of water leakage in sound, dense concrete structures—whether designed to retain or exclude water—occurs at construction and day-work joints. Costly remedial work can be minimized by applying **REC SEAL 0091** as a dry shake to horizontal joint surfaces or as a slurry to vertical surfaces. Where a high-water table is present, **REC SEAL 0091** may be applied as either a slurry or dry shake over the blinding/construction concrete immediately before casting the slab. This sandwich system helps prevent groundwater ingress, reducing the risk of dampness, deterioration and flooding.

Where practicable, foundations should be treated on the external face, including the faces of construction joints.

REC SEAL 0091 can be applied immediately after removal of formwork. The subsequent water-curing process also promotes continued hydration of the concrete and development of the waterproofing treatment.

Where the treated surface will remain exposed and an aesthetically pleasing finish is required, apply a suitable sand/cement render over the cured **REC SEAL 0091** treatment before applying the final decorative finish.

• Existing Structures

Existing structures experiencing water leakage or water ingress should be carefully inspected to identify the source and cause of leakage. Any standing or free water should be removed to allow a thorough assessment of the substrate. Static cracks greater than 1 mm should be chased out, thoroughly dampened and repaired using **REC SEAL 0091** render applied over a suitable **REC SEAL 0091** slurry coat.

Dynamic cracks should be opened and treated as suitable watertight elastomeric movement joints using an appropriate flexible joint-sealing system.

SURFACE PREPARATION

The quality of substrate preparation has a direct influence on the performance of the **REC SEAL 0091** waterproofing system. Surfaces must be clean, sound and free from contaminants that may impair adhesion or prevent penetration of the active ingredients and moisture into the substrate. Remove the dust, loose particles, oil and grease, paint and coatings, residual curing compounds, and mould-release oils. Remove surface laitance and prepare the substrate to provide an open-pored, slightly rough surface capable of providing an adequate mechanical key. Areas of weak, porous or honey combed concrete must be properly repaired before application. Hollow or debonded renders must be removed and reinstated. Where the substrate is not already sufficiently damp, thoroughly saturate the surface with clean water for approximately 24 hours before the first application. The substrate should be damp/saturated but free from standing water at the time of application.

MIXING

Always add water to **REC SEAL 0091 powder**, and not the powder to water.

Mixing Ratio by volume:

Water	REC SEAL 0091
1 part	2.25–2.5 parts

Mix thoroughly until a uniform, lump-free consistency suitable for the selected application method is obtained.

Only mix quantities that can be applied within the product's workable period.

APPLICATION

REC SEAL 0091 slurry may be applied by brush or suitable spray equipment onto the prepared and dampened substrate. Apply two coats at right angles to each other. The second coat should be applied while the first coat is firm but still green, normally approximately 3–4 hours after the first coat, depending on temperature, humidity and substrate conditions. For old concrete, brickwork and granular concrete blocks, the second coat may be replaced with a 5–10 mm thick **REC SEAL 0091** render, where appropriate to the system and application requirements. Avoid application during conditions that may cause excessively rapid drying, freezing or adverse curing.

CURING

REC SEAL 0091 must be protected against premature drying and maintained in a damp condition for 5–7 days following application. Where necessary, curing may be achieved by:

- Fine mist spraying with clean water
- Covering with polyethylene sheeting
- Other suitable methods that prevent premature moisture loss

Curing compounds are not suitable for use with the **REC SEAL 0091** crystalline waterproofing system.

Protect the treated surface from the following for a minimum period of 5–7 days, as applicable to the curing conditions:

- Direct sunlight
- Strong wind
- Frost
- Rapid drying
- Severe weather exposure

For water-retaining structures such as tanks and reservoirs, the original technical information indicates that the structure may be filled approximately 24 hours after the final **REC SEAL 0091** application, as water exposure assists the crystalline reaction. Actual filling should, however, be confirmed against the project requirements, substrate condition and current approved product instructions.

IMPORTANT NOTES

- **REC SEAL 0091** is intended for application to sound, properly prepared concrete and cementitious substrates.
- Successful waterproofing depends on proper substrate preparation, correct mixing, application and curing.
- Cracks, construction joints, movement joints and areas of defective concrete should be identified and treated using appropriate repair details before or during waterproofing works.
- Do not apply over surfaces contaminated with oils, grease, curing compounds, coatings or other materials that may prevent adhesion or penetration.
- Do not allow the applied material to dry prematurely during the curing period.

PACKAGING

REC SEAL 0091 is available in different packaging sizes and can be supplied on demand from clients.

STORAGE

Up to one years when stored in a dry, frost-free and well-ventilated area, protected from direct sunlight and moisture. Keep bags sealed until required for use. Protect the product from humidity and water prior to application.

SAFETY PRECAUTIONS

As with all cementitious chemical products, appropriate care should be taken during handling, mixing and application. Avoid contact with eyes and prolonged contact with skin. Avoid inhalation of dust during mixing. Always wear suitable protective gloves, eye protection and protective clothing. Use appropriate respiratory protection where dust generation cannot be adequately controlled. Do not eat, drink or smoke while handling the product. Wash hands

thoroughly after use. In case of contact with eyes or skin, rinse immediately with plenty of clean water. If accidentally swallowed or if adverse symptoms occur, seek medical attention immediately.
Reseal opened packaging after use.

QUALITY STATEMENT

All our products are manufactured to comply with our internal quality management system to ensure consistency and quality.

DISCLAIMER

While the company guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control. It is recommended to verify with the company that the product is suitable for the intended use. This Data Sheet version is the latest one. The company may modify it without any prior notice. Technical characteristics are listed for guidance only. For more information, please contact the company's head office located in Lahore.

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