Roka Crystal Coat

Crystallizing Waterproofing System and Moisture Seal for Mortar and Concrete

Crystal Coat is a Cementitious waterproof coating that contains moisture activated additives which protects and waterproofs concrete structures by crystallization. The active chemicals react with moisture in the concrete and form a water insoluble crystalline microstructure deep within the capillaries and mortar. Roka Crystal Coat gives a strong and lasting waterproof protection against dampness and groundwater hydrostatic pressure.

Uses & Advantages:

- Provides permanent waterproofing properties by becoming a permanent part of the structure.
- The crystallization blocks the further passage of water ensuring permanent water tightness.
- Permanent solution to water leakage or seepage in any cementitious substrate.
- Provides protection to concrete against corrosive waterborne substances.
- Effective against both positive and negative water pressure.
- Non-toxic and non-tainting.

Fields of Application:

Roka Crystal Coat blocks the pores in concrete. structures such as:

- Basement
- Tunnels & Reservoirs

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- Foundations
- Retaining Walls
- Sea Defence Walls
- Tunnel and Underground Subways
- Sewage Water and Effluent Treatment Plants
- Dams
- Canals
- Concrete Pipes
- Swimming Pools
- Underground parking structures
- Water Tanks

Technical Data

Color	Grey
Appearance	Cementitious Powder
Water Powder Ratio	0.2 - 0.3 kg by weight of cement
Mixed Density	2.0 kg/l
Coverage	1 kg/m^2 (depends on area conditions) Minimum 2 coats
Pot Life	~40 Mins at 30^0C

Shelf Life	Up to 6 months from date of production when stored in cool & dry area away from direct sunlight
Packaging	Supplied in 20 Kg bags

Surface Preparation:

Ensure the concrete surface is clean and free of laitance, dirt, grease, paint, coatings, or any other foreign matter. This can be done using high-pressure water jetting, wet sandblasting, or a surface grinder. The surface should have an open pore texture to allow the crystalline additives to penetrate the concrete. If the surface is too smooth, it may need to be acid-etched and then neutralized. Fix any cracks or defects in the concrete before applying the coating. Rout out visible cracks exceeding 0.4 mm wide, honeycombed pockets to depth of about 40 mm and width of 25 mm. Mix three parts of Roka Crystal Coat to one part water by weight, until stiff mortar consistency is achieved. Prime concrete surface with one slurry coat of Roka Crystal Coat before applying the mortar mix onto the area to be patched, tightly sealing cavities. This ensures a uniform application and better performance of the waterproofing system. Dampen the concrete surface before applying the crystalline coating. This helps the crystalline chemicals to migrate into the pores and start reacting with the concrete.

Mixing:

Add powder to a given amount of water and stir with a low-speed mixer for 5 minutes until a lump free smooth brush-able consistency is achieved.

Conditions During Application:

Do not apply at temperature below 10°C or if the Relative humidity exceeds 85% or within 3°C of the Dew Point.

Application Methods:

Slurry Coat:

Before applying the coat, it is important to make sure that the surface is damp. If the surface is dry, damp the surface and apply at least 2 coats of Roka Crystal Coat at right angles to each other at a minimum rate of 1. kg/m2 per coat using a block brush or roller. The 2nd coat must be applied after 4 - 5 hours while the 1st coat is still green but has significantly set so it does not draw off while applying the 2nd coat. If the surface has dried before applying the 2nd coat, the surface must be dampened again.

Dry Shake Method:

Positive Waterproofing:

Sprinkle Roka Crystal Coat powder directly from the packaging at the rate of 2 kg/m2 evenly onto the lean concrete substrate just before pouring of the concrete.

Negative Waterproofing:

Sprinkle Innova Crystal Coat powder directly from the packaging after allowing concrete to achieve the initial set at the rate of 3 – 3.5 kg/m^2 evenly. Should the product lose its required consistency as a result of standing too long prior to application do not re-temper the mix, discard the product and mix a fresh bag of product.

Curing:

After Roka Crystal Coat has hardened, the treated surface must be prevented from drying out for at least 6 days. The surface must be treated with a light mist of clean water several times a day and covered with polythene.

Protection on Completion:

In case the system is used on external areas subjected to heavy rain, harsh sunlight or frost, the finished application should be protected for at least 24 hours.

Cleaning of Tools:

Roka Water Guard can easily be removed using fresh water immediately after use. In case of cured material, mechanical removal is required.

Health and Safety:

Roka Crystal Coat is a cement-based product and is alkaline which may cause dermatitis. We recommend that PVC or similar gloves and safety goggles should be worn during handling.

Important Note:

The information provided in this data sheet is based on ongoing development efforts and extensive field experience. While we strive to ensure the accuracy and reliability of the information, we cannot assume responsibility for any work performed using our materials, as we have no control over application methods, site conditions, and other factors. Due to ongoing research and development in our laboratories, we recommend that customers verify that this data sheet has not been replaced by a more recent publication.

All products are sold under our standard conditions of sale, which are available upon request. Any field services offered do not imply supervisory responsibility. For further information, please contact your local representative of Roka Chem Solutions.