

HYDROCEM CR

Crystalline Capillary Cementitious Waterproofing Mortar

Description:

HYDROCEM CR is a surface applied integral crystalline water proofing material, which provides permanent waterproofing and protection solution to water leakage, hairline cracks, or seepage in concrete structures or any cementitious substrates.

HYDROCEM CR consists of Portland cement, specially treated silica sand and a mix of active chemical additives. It needs only water to be mixed prior to application. When the mix is applied to the concrete surface, the active chemicals combine with the free lime and moisture present in the capillary voids of the concrete to form an insoluble crystalline structure. The crystals fill the pores and minor shrinkage cracks in the concrete, yet still allow the concrete to breath.

Uses:

HYDROCEM CR is generally applied to concrete and other cement structures where water needs to be kept in or kept out like industrial processing plants, parking decks, road decks, cellars and concrete roofs, etc. It withstands positive and negative pressure for dual sided waterproofing.

HYDROCEM CR can also be used as effective waterproofing system for the following:

- Swimming pools
- Reservoirs and water tanks
- Sewage and water treatment plant and tanks
- Canals, harbors and dams
- Concrete pipes
- Subway tunnels (non-traffic bearing)
- Retaining walls, bridges decks
- Basements, foundations.
- Repairing hairline cracks.

Advantages:

- Become an integral part of the concrete forming a complete body of strength and durability.

- Non-toxic and can be used for potable water tanks.
- Easy to apply, less labour and cost effective.
- Can be applied even on moist or green concrete.
- Active components present in the watertight concrete reactivates upon contact with water
- Excellent resistance to frost –thaw cycles
- Guarantees permanent water sealing of concrete
- High resistance to deicing salts.
- Shields concrete and reinforcement from corrosion due to water born substances like chlorides and sulphates.

Instructions for Use:

Surface Preparation:

All surfaces where HYDROCEM CR has to be applied must be clean and have an open capillary system. Eliminate laitance, dirt, grease and other loose materials by means of high pressure water jetting or sand blasting. Defective concretes such as cracks and honeycombs, etc has to be chased out and treated with HYDROPLUG (rapid setting cementitious water plugging mortar) prior to the application. In addition, make sure that all surfaces must be damp but not totally wet before progressing the work.

Mixing:

Mix mechanically with clean water to achieve a creamy consistency. Add approximately 6.6 to 7.0 ltr of water for 20 kg bag of HYDROCEM CR. Mix only a small quantity which can be applied in 20 minutes and stir the mix frequently. In the event that the mixture thickens, simply re-stir the prepared mixture in order to reinstate its workability.

Application:

Apply HYDROCEM CR using a brush, broom or power spray gun. Work the slurry well into openings, rough surfaces, joints and routed out areas. Make sure to apply the second coat while the first coat is still "green".

HYDROCEM CR

For horizontal surface application on freshly laid concrete, sprinkle dry powder of HYDROCEM CR evenly over freshly poured concrete.

All areas where HYDROCEM CR is applied should be kept damp, protected against direct exposure from sunlight, wind and frost by covering the area with polythene sheeting, damp hessian cloth etc. for a period of 2 days.

Standards:

- ASTM C109, ASTM D4541, ASTM E96

TECHNICAL PROPERTIES	
Appearance	Grey powder
Wet Density	2.00 ± 0.05 kg/lit
Workable Time	>30 min @25°C
Compressive Strength (ASTM C109)	42 N/mm ² @28 days
Flexural Strength (ASTM 348)	10 N/mm ² @28 days
Bond Strength (ASTM D4541-02)	≥1.0 N/mm ²
Water Resistance at 5 bar (BSEN 12390)	Pass (positive pressure)
Water Resistance at 5 bar (BSEN 12390)	Pass (negative pressure)
Water Vapor Permeability (ASTM E96)	< 1.0 g/h/m ²

*Values indicated may vary depending on the environment and conditions of the material. Figures given are tested according to standard laboratory conditions.

Coverage:

Apply HYDROCEM CR into two coats. 2.00 kg/m² of HYDROCEM CR powder consumed to achieve a cured HYDROCEM CR layer with a minimum thickness coating of 1mm

*Coverage rate is an approximate value, and subject to actual site conditions.

Packaging:

HYDROCEM CR is available in 20 kg recyclable paper bags.

Storage:

Keep the product in dry and covered shed in a temperature between 10°C and 25°C. Exposure to extreme temperature and humidity results in the deterioration of the product's efficiency.

Shelf Life:

HYDROCEM CR can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

Cleaning:

All tools employed for the application of HYDROCEM CR can be cleaned with water before it hardens. Hardened materials can only be removed mechanically.

Health and Safety:

- Avoid contact with eyes and skin. Wear suitable protective clothing such as coveralls, goggles, dust mask and gloves. Use barrier cream. Ensure that there is adequate ventilation. Do not breathe vapour or spray mist.

FIRST AID:

- Eyes: In the event of accidental splashes, flush with warm water and seek medical advice.
- Skin: Wash skin thoroughly with soap and water
- Inhalation: Remove to fresh air, keep patient rested
- Ingestion: Do not induce vomiting. Seek immediate medical attention.

For further safety information, please refer to HYDROCEM CR Material Safety Data Sheet.

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