

HYDROCEM 2K PRO

Two Part Elastomeric Cementitious Waterproofing Mortar

Description:

HYDROCEM 2K PRO is a two-component polymer modified flexible cementitious coating product used for waterproofing water retaining structures. It is composed of special type of cements, bonding agents, selected fillers and special additives (component A) and water based synthetic acrylic co-polymer (component B).

HYDROCEM 2K PRO is supplied in a pre-packaged form that has been designed to be easily mixed on-site using a slow speed drill and paddle and then applied to the substrate using a brush, trowel or by spray application. When the two components are mixed it produces a workable slurry that can be applied either horizontally or vertically which adheres to concrete and masonry supports. Once cured, it forms a waterproofing and flexible layer resistant against aggression of chlorides and sulphates.

Uses:

HYDROCEM 2K PRO can be applied as a high quality flexible cementitious water proofing membrane in different applications including:

- Swimming pools and water reservoirs, water tanks and canals before tiling or other surface finishing.
- Wet areas waterproofing: baths and kitchens.
- Balconies, terraces, bathrooms, kitchens, prior to floor tiling.
- Retaining walls shafts, basements and foundations.
- Protection of concrete structures exposed to chemical aggression.
- To protect substrates exposed to deformation or vibration.
- Can be used as protection of concrete and masonry in contact with soil.
- To protect cracked plastering against water or steam penetration.
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- Can be applied in maintenance on top of existing ceramic or marble flooring as a waterproof coating prior to fixing new tiles.

Advantages:

- Excellent mechanical and abrasion features.
- For external and internal application on both old and new surfaces.
- Positive pressure applications up to 5 bars.
- Polymer modified, therefore, reduces permeability and improves adhesion and mechanical strength.
- Durable and low maintenance cost.
- Excellent resistance to a range of chemicals.
- Excellent adhesion to substrate. Bonds to green or damp concrete.
- Breathable, water vapor permeable.
- Durable, excellent resistance to UV.
- Excellent protection against carbon dioxide, chloride ions and water.
- Non-toxic, suitable for drinking water.
- Provides flexible crack bridging when cured up to 2.0 mm.
- Compatible with various types of coatings, tile adhesives and topping.

Instructions for Use:

Surface Preparation:

All surfaces should be sound, clean, dry and free from loose material, efflorescence, laitance, curing compounds; dirt, oil and grease. Ensure that concrete surfaces are cured for at least 14 days before coating the product. It is recommended to level and smooth the surface in order to avoid build-up of the product. Create at junction between wall and floor a 45°C fillet with LAVAREP F40 (fiber reinforced shrinkage compensated repairing mortar or LAVAREP F60 (high strength fiber reinforced concrete repair mortar).

For hard laitance or contamination, clean the concrete surface with mechanical preparation

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method, like captive blasting or sand blasting. If the substrate is restricted to access, utilise preparation by handy mechanical tools and wire brush discs. Degraded concrete structures must be repaired with a suitable repair product. Exposed reinforcement bars must be treated with LAVAFER anti corrosion agent.

If any cracks reveal at concrete surface after blasting, check if cracks are superficial or penetrating the concrete body, then check if the crack is static or dynamic. For superficial cracks, apply a cementitious repair mortar. For dynamic superficial crack, apply a paste mixed from the same product HYDROCEM 2K PRO as filler to the crack. Whereas, if the crack is dynamic and penetrating the concrete, use flexible injection resins to fill the cracks prior to application of HYDROCEM 2K PRO. For concentrated water seepage apply HYDROPLUG mortar to plug and prevent seepage of water. Before application starts, Saturate the substrate with water to eliminate possible water absorption at the moment of application.

Mixing:

HYDROCEM 2K PRO is supplied in pre-measured two component kit, a powder part A and liquid part B. Pour the liquid (part B) into the container and then add slowly the contents of the powder bag (part A), use a low-speed mixer (300-400 rpm) fitted with a suitable paddle to mix the product for an interval of 3-5 minutes till a homogenous lump free consistent mix is achieved. Leave the mix for 4 minutes to release extra air entrapped within.

Application:

HYDROCEM 2K PRO can be applied with a trowel, brush or a spraying machine. Wet the surface of application thoroughly with clean water till a saturated surface dry 'SSD' condition is reached, this allows best adhesion and proper curing of the slurry.

Apply the mixture with brush or a spatula, in at least two coats in opposite direction to each other, with a thickness not more than 1 mm per coat. Before the second coat is applied, make sure that the first one has hardened sufficiently. A buildup of 3.2 kg / m² will result in a final membrane film thickness of 2.00 mm. The finishing can be done with a smooth spatula, few minutes after the application.

If the substrate is exposed to movements deformation, or to increase the mechanical strength characteristics of the waterproofing membrane, or where cracks are expected, it is recommended to fix ARMOGLASS, a reinforcing glass fiber mesh into the first coat of HYDROCEM 2K PRO, while still wet and fully covered with the second coat to ensure monolithic integrated membrane layer formed without defected spots.

For internal waterproofing of water tanks, wet areas and swimming pools, it is recommended to treat the joints and through penetrations with HYDROJOINT TAPE rubber band. After fixing the tape, use a brush to apply a strip of HYDROCEM 2K PRO 75 mm wider than the width of HYDROJOINT TAPE from both sides and embed the tape into the wet slurry with a steel spatula. Once the applied strip is dry, proceed with applying the subsequent coats of HYDROCEM 2K PRO for the entire work area.

As HYDROCEM 2K PRO is a flexible water proofing system, it is recommended to fix tile with a compatible tile adhesive with the same degree of flexibility. For general situation, use elastic adhesives like TILEGRIP WP. If high flexibility is needed, mixed TILEGRIP WP with ELASTOGRIP LATEX. Joints must be filled using COLORTEC (latex modified water repellent cement based tile grout) mixed with the same latex.

Standards:

- EN 14891, 12390/8, 1062
- ASTM C836, D4541-02, D412, D4060, E96
- DIN 1048

TECHNICAL PROPERTIES	
Color	Cement Grey or White
Appearance	Comp. A: powder Comp. B: Liquid
Density	Comp. A (dry): 1.55 ± 0.03 kg/lit Comp. B: 1.05 ± 0.03 kg/lit
Wet Density	1.60 ± 0.03 kg/lit
Potlife time after mixing at 25°C	45 minutes
Temperature of Application	From +5°C to +35°C
Drying Time	8 hours

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Bond Strength (ASTM 4541-02)	1.50 N/mm ²
Elongation (ASTM D412)	>100% (unbonded)
Tensile Strength (ASTM D412)	>2.5 N/mm ²
Water Impermeability (EN 12390, part 8)	Positive >5 bar; Negative 3 bar
Crack Bridging at Breakage (BSEN 1062)	2.0 mm
Chloride Penetration	NIL
Moisture Vapor Transmission (ASTM E96)	<25 g/m ² /day
Shore A Hardness (ASTM 2240)	30
Abrasion Resistance (ASTM 4060)	Wear index 1
Toxicity (BS 6920)	NIL
Heat Resistance	-30°C to +90°C
Recoating Interval	4-8 hours
Curing Time before Application of Tile	48 hours

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

Coverage:

HYDROCEM 2K PRO achieves coverage of 8.5-9.0 square meters per bag @ 2.00mm thickness.

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

Packaging:

HYDROCEM 2K PRO is available in set of 30 Kg. kit (Powder Bag + Liquid Jerkin).

Storage:

Store in original packing in dry conditions away from direct sunlight and high humidity.

Shelf Life:

HYDROCEM 2K PRO can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

Cleaning:

Clean all tools with water before product hardens. Hardened materials can only be removed mechanically.

Remarks:

- HYDROCEM 2K PRO is a cement product. All precautions for concrete practice must be followed.
- For application in drinking water tanks, wash the applied coat thoroughly with plenty of water while scrubbing the surface with sponge before using the tank.
- During the peak temperature of the day in the summer season, working area should be covered to prevent direct sun effects. Keep mixing tools in shade.

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 2K PRO Material Safety Data Sheet.

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