

# HYDROCEM 1K

## Single Component Waterproofing Coating

### Description:

HYDROCEM 1K is a cementitious, single component, waterproofing slurry that can be applied as a waterproofing layer, internally and externally, with high bonding features. It consists of cement, graded silica sand, special chemical additives and polymers. Once mixed with water, it becomes a workable, flowable mortar that can be applied easily to both vertical and horizontal cementitious surfaces.

HYDROCEM 1K stands unique as a liquid applied waterproofing membrane suitable for both negative and positive waterproofing applications. When cured, it has excellent bonding strength to the surface and can withstand positive water pressure up to 1.50 bars.

### Uses:

HYDROCEM 1K can be applied as a waterproofing coating in a variety of application including:

- Swimming pools and water reservoirs, before tiling or other surface finishing.
- Water tanks and concrete pipes.
- Façade dampproofing
- Water vapor barrier under cladding
- Shafts, basements and foundations.
- Bathroom, kitchens, lift pits.

### Advantages:

- Single component, easy to mix and apply.
- Excellent mechanical and abrasion resistant.
- Negative and positive pressure applications.
- Durable and low maintenance cost.
- Excellent resistance to a range of chemicals.
- Excellent adhesion to substrate.
- Provides flexible layer when cured.
- Compatible with various types of coatings, tile adhesives and topping.
- Can be applied over damp surfaces.

### 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. 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 method, like captive blasting or sand blasting. If the substrate is restricted to access, utilise preparation by handy mechanical tools and wire brush discs.

If any cracks reveals 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 1K 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 1K. For concentrated water seepage, apply HYDROPLUG mortar to plug to prevent seepage of water. Before application starts, saturate the substrate with water to eliminate possible water absorption at the moment of application.

#### Mixing:

HYDROCEM 1K is a single component dry mix mortar which can be mixed on site with water. Pour 6.25 to 6.5 liters of water in a clean vessel then empty the content of the 25 kg bag of HYDROCEM 1K to the vessel. Mix the product using a slow speed mixer

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(300-400 rpm) fitted with a suitable paddle for 3 to 5 minutes till a homogenous lump free consistent mix is achieved. Leave the mix for 3 minutes to release the entrapped air within the mix, then mix again shortly before application. Mix only enough material that can be used within 30 minutes after mixing and stir the mixture frequently. For spray machine application, gauged water maybe adjusted. Consult MATEX Technical Department for assistance.

## Application:

HYDROCEM 1K 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 to allow the best adhesion and proper curing of the slurry.

In general, it is recommended to apply two coats of the mix. Apply the first coat with brush to the surface at a spread rate of 1.9 kg /m<sup>2</sup> per coat. Within 5 to 8 hours (depending on the weather conditions) apply the second coat 'green on green' so that a chemical bond is achieved between the two coats, perpendicular to the first coat with same rate of application. A buildup of 3.8 kg / m<sup>2</sup> will result in a final dry membrane film thickness of 2.00 mm. For application of water under pressure, it is recommended to further apply a third coat.

Embedding fiber mesh in the system is an option to increase the characteristics of the waterproofing membrane. Fix the mesh in the first coat while still wet and fully cover with the second coat to ensure monolithic integrated membrane layer formed without defected spots. Apply the full thickness of each layer in one application by trowel. Smooth the surface and ensure full surface coverage before HYDROCEM 1K start to cure.

## Standards:

- EN 1504-9, EN 14891, EN 12390-8, EN 1062,
- EN ISO 7783
- BS 6920
- ASTM D4541-02, D412, E96

TECHNICAL PROPERTIES	
Color	Cement Grey or White
Density	1.90 ± 0.05 kg/lit
Workable time after mixing at 25°C	45 minutes
Permeability to water vapor (S <sub>D</sub> value)	1-1 m
Bond Strength (ASTM D4541-02)	>1.70 N/mm <sup>2</sup>
Resistivity to 1.50 bar pressure (BSEN 12390-8)	Pass
Tensile Strength (ASTM D412)	3.25 N/mm <sup>2</sup>
Recoating Interval	4-8 hours
Service Temperature	-5°C to +80°C
Open to water exposure	7 days
VOC	<1

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

## Coverage:

HYDROCEM 1K achieves coverage of 7.0-7.5 square meters per 25 Kg. bag at 2.00 mm thickness.

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

## Packaging:

HYDROCEM 1K is available in 25 kg recyclable paper bags.

## Storage:

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

## Shelf Life:

HYDROCEM 1K can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

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## Cleaning:

Clean all tools with water before products 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 vapor 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 1K Material Safety Data Sheet.

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