

# HYDROCEM 1K FLEX

## Single Component Flexible Water Proofing Slurry

### Description:

HYDROCEM 1K FLEX highly flexible, single component, sulphate resistant waterproofing slurry that can be applied as a crack-bridging waterproofing layer to concrete structure subject to movement. It can be used as a superior water proofing system for a wide range of applications including, water reservoir, wet area, swimming pools, and suitable for interior and exterior applications. HYDROCEM 1K FLEX is characterized with good bonding features to the substrate and acts as both negative and positive waterproofing coating.

### Uses:

HYDROCEM 1K FLEX can be applied internally and externally as a water proofing system in several applications including:

- Swimming pools, water reservoirs, dams, canals.
- Foundations, wet areas, plinths and water retaining bodies.
- Water tanks and concrete pipes.
- Concrete and masonry supports against humidity and running water.
- Water vapor barrier over concrete surfaces.
- Back-coat for panels to prevent moisture penetration and dampness.
- Can be used as negative pressure waterproofing system in humid rooms, elevator shafts, basements, tunnels, inspection pits, retaining walls, bridge decks, jetties.
- Can be used as a smooth finish on vertical, overhead and horizontal non-traffic bearing surfaces.
- Waterproofing balconies, terraces, bathrooms and showers before laying ceramic tiles.

### Advantages:

- Single component, easy to mix and apply.
- Excellent mechanical and abrasion resistant.

- Negative and positive pressure applications.
- Excellent resistance to a range of chemicals.
- Excellent adhesion to substrate.
- Provides flexible crack bridging layer when cured.
- Can be used in contact with potable water.
- Breathable
- Can be applied over damp substrates.
- Compatible with various types of coatings, tile adhesives and topping.
- Impermeable to water under pressure.

### 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 or LAVAREP F60.

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 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 1K FLEX 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 FLEX. For concentrated water seepage apply HYDROPLUG mortar to plug to prevent seepage of water. Before application starts, saturate the

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substrate with water to eliminate possible water absorption at the moment of application.

## Mixing:

HYDROCEM 1K FLEX is a single component dry mix mortar that can be mixed on site with water. Pour 6.0 to 6.5 liters of water in a clean vessel then empty the content of the 20 kg bag of HYDROCEM 1K FLEX to the vessel. Mix the product using a slow speed mixer (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 technical department for assistance.

## Application:

HYDROCEM 1K FLEX 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 in a spread rate of 1.75 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 3.5 kg / m<sup>2</sup> will result in a final membrane film thickness of 2.00 mm.

Embedding HYDROTEX 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 14891, 1504-2, 1062, EN ISO 7783, 12390-8,
- BS 476, part 6, 6920
- ASTM C836, E96, D412, 2240, D4541-2

TECHNICAL PROPERTIES	
Color	Cement Grey or White Colored upon request
Density	1.75 ± 0.05 kg/lit
Potlife of mix@25°C	40 minutes
Application Temperature	+5°C to +35°C
Recoating Interval	4-8 hours
Bond Strength (ASTM D4541-02)	2.0 N/mm <sup>2</sup>
Shore A Hardness (ASTM 2240)	30
Tensile Strength (ASTM D412)	4.0 N/mm <sup>2</sup>
Crack Bridging (EN 1062)	>0.5 mm
Temperature Resistance	-30°C to +90°C
Resistivity to Pressure (EN 12390, part 8)	Negative 3 bar Positive 6 bar
Water Vapor Permeability (ASTM E96)	5 Perms
Open to Water Exposure	After 7 days

\*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 FLEX achieves coverage of 5-6 square meters per bag @ 2.00mm (DFT) thickness.

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

## Packaging:

HYDROCEM 1K FLEX is available in 20 kg recyclable paper bags.

## Storage:

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

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## Shelf Life:

HYDROCEM 1K FLEX 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.

## 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 1K FLEX Material Safety Data Sheet.

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