HYDROISOL
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HYDROISOL-ITH

CEMENT-BASED CRYSTAL PRODUCING CONCRETE WATERPROOFING MORTAR

PRODUCT DATA SHEET

HYDROISOL-ITH

Cement-based Crystal Producing Concrete Waterproofing Mortar

DESCRIPTION

HYDROISOL-ITH® is a waterproofing material that produces crystals by penetrating the concrete against moisture after being applied to the surface.

“HYDROISOL-ITH” consists of Portland cement, finely processed sand and special active chemicals.

The active chemicals which penetrate the surface react to moisture and hardened concrete components and enter into a catalytic reaction.

This reaction creates insoluble crystal formation in both the cavities and capillary channels and cracks of the concrete, and it provides the concrete permanently impermeable to water.

It does not allow water or other liquids to leak from any direction, even under high hydrostatic pressure.

INTENDEDUSE

When the HYDROISOL-ITH® is applied, chemicals in the form of aqueous solutions leak from the gaps to the bottom of the concrete. Reactions involving concrete components take place in the cavity. The needle-shaped crystals fill capillaries, microcracks and pores in the concrete bulk.

The crystallization continues only in contact with water until the pores are completely clogged. As a result, a strong and durable internal structure is created.

This prevents further penetration of water and provides waterproofing properties.

TECHNICAL FEATURES AND ADVANTAGES

- It prevents water penetration under high pressure.
- It fills all cracks up to 0.4-0.5 mm in the concrete bulk. Insulation will complete after these cracks will be filled by crystals.
- In the case of mechanical damage and water ingress a self-healing effect starts immediately after the contact with water.

- It provides diffusion transition in the concretes. It allows the wall to dry by evaporating between the crystal cavities.
- It eliminates the disadvantages of surface insulation materials by using instead of cover type materials.
- It prevents the freezing of the concrete and increases the tensile strength
- It integrates with the concrete
- It protects the iron from the corrosion in the concrete
- It is non-toxic and it can be used in both drinking water tanks and facilities
- It is resistant to high hydrostatic pressure. It does not lose its insulation features under high hydrostatic pressure
- It is applied to the concrete surface both positively and negatively
- It allows the concrete to breathe
- It is durable to aggressive chemicals (PH=3-14)
- It does not require dry surface
- The edges of the concrete structure are not punctured, torn or broken.
- It does not require priming or correction on the surface which have high cost before application
- It does not require insulation, sealing or finishing the entire surface at corner and edge joints or between coating
- It can be applied to both previously treated or new concretes.
- It does not require protective material while using steel, mesh or other materials.
- It is currently reactive; it becomes active in contact with water.
- It protects the concrete from chemicals such as sea water, waste water, oil, etc.
- Its application cost is less than other methods.
- No deterioration in the crystal structure occurs. It is permanent.
- It can be easily added to the concrete at the plant or at the construction site.
- It minimizes cracks and shrinkage in concrete.

AREAS OF USAGE

- Shear concrete
- Concrete block structures
- Dams
- Industrial Buildings
- Concrete dwelling houses
- Roof and Balconies
- Water storage tanks
- Elevator shafts
- Tunnels, underpasses
- Construction joints
- Multistorey car parks
- Roads
- Wastewater facilities
- Docks and Piers
- Swimming Pools
- Underground parking
- Concrete Channels
- Bridge

CONSUMPTION

Vertical Application: The consumption is 1.3 kg / m² in the vertical surfaces which the material is applied two times by brush or spraying. The second layer is applied after the first layer has hardened.

Horizontal Application: The consumption is 1.0 kg / m² in the horizontal surfaces which the material is applied by brush or spraying.

Lean Concrete: The consumption is 1.3 kg / m² in the vertical surfaces which the material is applied two times by brush or spraying. The second layer is applied after the first layer has hardened.

INSTRUCTION MANUAL

The Preparation of Concrete Surface

The surface of the concrete must be cleaned by using high pressure water, sanding tools or wire brush. Then the surface will be cleaned from lime, paint, dust, cement grout, dirt, oil and so on. Capillary pores should be open so that the material can penetrate deeply into the concrete.

For crystal formation, Both surfaces and pores must be cleaned for crystal formation by using clean water. Large gaps, cracks and pores should be filled with mortar.

The capillary pores must be open and moistened so the material penetrates deeply into the concrete.

Moisturizing of Concrete Surfaces

Before applying "HYDROISOL-ITH", concrete surfaces should be wetted with clean water so as to help curing of the application, control absorption and ensure the deep formation of crystals into the pores of the concrete. Dirty and waste water on the surface should be cleaned before application. All concrete must be wetted. The moist concrete (no water on the surface) should be obtained.

Mixing

“HYDROISOL-ITH” is added clean tap water until it mechanically reaches a creamy form and mixed until it reaches a homogeneous form. Mixing process will be done with a drill at low speed.

Please mix with enough material to be used in just 20-30 minutes and mix often. If the mixture is starting to harden, do not add more water and just keep mixing.

Mixture rate for brush:
For both vertical and horizontal surfaces:

- Please add and mix water as **1** amounts into **2** amounts Hydroisol -ITH on vertical surfaces
- Please add and mix water as **1** amounts into **3** amounts Hydroisol -ITH on horizontal surfaces.

Mixture rate for spray:
Please add and mix water as **3** amounts into **5** amounts Hydroisol -ITH.

APPLICATION

HYDROISOL-ITH® is applied with a nylon bristle wall brush or sprayer. For both horizontal and vertical surfaces, the second layer should be applied on the same day while the concrete surface is still fresh after the first layer.

Application Conditions:

"HYDROISOL-ITH" can be applied at air temperatures between +5°C and +35°C. Please avoid working in direct sunlight, rain or strong wind.

It is applied only to a damp concrete surface. For both horizontal and vertical surfaces, the second layer should be applied on the same day while the concrete surface is still fresh after the first layer.

POST-APPLICATION

The areas where "HYDROISOL-ITH" is applied should be kept moist for 3-4 days. Moisturizing of the applied surface is carried out by using manual / electrical tools or by spraying tap water. When using high pressure water jet, low pressure water should be sprayed from a long distance to prevent damage to the applied surface. If it is necessary, the surface should be covered with polyethylene coating. The mechanical stress of the concrete should be removed by keeping it constantly moist. It should be protected from direct sunlight, wind and frost.

Post-Application Use

Cleaning is recommended at the latest 1 week after the application. The holding time can be reduced or increased until the maximum allowable moisture is reached considering the particular type of coating and the air temperature.

Warning

The areas where "HYDROISOL-ITH" is applied should be kept moist for 3-4 days. Moisturizing of the applied surface is carried out by using manual / electrical tools or by spraying tap water. When using high pressure water jet, low pressure water should be sprayed from a long distance to prevent damage to the applied surface. If it is necessary, the surface should be covered with polyethylene coating

It should be protected from direct sunlight, wind and frost. "HYDROISOL-ITH" cannot be used as an additive for concrete or plasters. Do not apply HYDROISOL-ITH at freezing temperature or on frozen surfaces.

After the application, the mechanical equipment should be cleaned of uncured compound immediately after using tap water. After hardening, the "HYDROISOL-ITH" composition can only be removed mechanically.

OTHER

Color: Gray

Package: 5 and 15 Kg PP buckets

Shelf life : The product has an 18 month- shelf life in a dry environment in its original and undamaged packaging.

Transportation and storage: It can be transported by all vehicle types at the temperature range from -50°C to + 50°C.

HEALTH AND SAFETY:

HYDROISOL-ITH® is non-toxic and does not harm the environment and human health during transportation, storage and application. It belongs to the 4th hazard class in terms of physico-chemical and sanitary-biological characteristics according to GOST 12.1.007-76 (less hazardous substances - maximum pollution level is 50 mg/m³). Wear suitable protective goggles and rubber gloves when using the product. In case of contact with eyes and skin, rinse immediately with plenty of water and seek medical care.

MANUFACTURER:

Institute of Technical Chemistry of Ural Branch- Russian Federation

Distributor:

NOTERSON Yalıtım ve Kimya A.Ş. (Turkey, Europe and Middle-East Region Distributor)

CERTIFICATES:

- CE Document
- GOST Sheet
- ISO 9001
- Health Certificate
- MSDS
- TDS

GUARANTEE

Institute of Technical Chemistry of Ural Branch of RAS guarantees that the products will not contain defects and that the compounds in its formulation are complete.

In the case that the products are defective, the manufacturer's liability is limited to the replacement of the product proven to be defective with Hydroisol products from the factory or the relevant distributor, or a refund of the products at the net warehouse sales price valid at the date of supply.

Within the framework of the permission rules, manufacturer cannot be held liable for any damage, cost, expense, loss, compensation or other liability that may arise directly or indirectly from defective products. The manufacturer cannot provide fit for purpose guarantee.