



Deep Penetrating Sealer. For concrete hardening and waterproofing

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Performance specification for EVERCEM DPS

Preamble

Evercem DPS (Deep Penetrating Sealer) is an environmentally friendly, water-based, non-toxic, non-flammable, odorless and colorless liquid component. Evercem DPS lasts longer than any other sealant on the market. It is non-organic and is based on natural minerals, not harmful to health and environment. Moreover, Evercem DPS can be stored for long periods.

For concrete hardening and waterproofing

Evercem DPS extends the lifetime of concrete structures by protecting them from the elements to which they are exposed daily such as rain, salts, oils and chemicals (both on the positive or negative side), causing concrete to wear out and lowering its integrity as years go by, deteriorating its surface and leading to cracks due to corrosion of steel reinforcement or freeze/thaw cycles. Evercem DPS can be used on new and existing concrete, and on industrial floors as well.

How does it work?

Evercem DPS, thanks to its special formulation based on liquid glass, penetrates in depth in the concrete and reacts, by means of a special catalyst, with the alkali present in its interior. This reaction forms a 3-4 cm thick air-silicate gel layer within the pores and capillaries of the concrete, permanently sealing it against the ingress of moisture yet allowing the concrete to breathe. After a certain amount of time the air-silicate gel impregnated layer, through hydration, turns into a glass-like crystalline structure, thus hardening and increasing by nearly 30% the compressive strength of both existing and new concrete surfaces, reducing moisture vapor emissions and permanently limiting the penetration of polluted water flows, such as acids and chlorides, under both positive and negative pressure.

For such reasons it has been successfully applied for retaining walls as well as for construction of dams.

Vantaggi nell'usare Evercem DPS

- Concrete waterproofing;
- Carbonation blocking;
- Protection of reinforcing rods;
- Reduction of salt efflorescence;

- It is certified for use in contact with potable water and it is suitable for waterproofing and protecting concrete tanks and surfaces used for foodstuff;
- Evercem DPS is permanent;
- It increases the hardness and strength of the concrete surface;
- It allows concrete to breathe;
- It can be applied on dry or damp surfaces;
- It decreases the formation of dirt on concrete;
- It improves adhesiveness for further finishing work;
- It protects concrete from chemical attacks;
- Applied on slabs and foundations, it blocks rising damp;
- It prevents the penetration of pollutants into the concrete and the release of dust;
- It's non-toxic, colourless and odourless.

Why EVERCEM is unique

According to U.S. testing laboratories, the interior of a piece of concrete contains a minimum of 360 times the amount of alkali as compared to the surface area. Evercem DPS is not just a superficial coverage because, by penetrating the concrete up to 35-40 mm, it reacts chemically with alkalis, becoming an integral part of it. To reach this result, you have to apply two crosswise coats of Evercem DPS only once (as indicated by the application procedures). Most other sealant applications are surface treatments and, by their own chemical compositions, will react negatively with the moisture and alkali in the concrete and soon peel off or leach out. Vehicular or pedestrian traffic, though causing the deterioration of surface sealers, which are worn out in a few weeks due to physical abrasion leaving the concrete without protection, does not affect the action of Evercem DPS which, thanks to its special formulation, penetrates in depth in the concrete and, reacting with the alkali present in its interior, is not subject to deterioration, but gives the concrete a permanent waterproofing.

How to apply

- Prepare the surface to be treated carefully. Fill in any imperfections of the pour (gravel nests). Seal and caulk any cracks well (such as metallic spacers of wooden formwork) with a mortar made from Portland cement. The concrete surface must be perfectly clean,



degreased, decontaminated by release agents, oils or other substances that can prevent the penetration of the product.

- Shake Evercem DPS before use.
- Apply Evercem DPS freely with a low pressure manual or mechanical pump (maximum 5 bar), roller or brush with two crosswise coats. Apply the first coat up to saturation and wait for it to dry before applying the second.
- On vertical walls, apply Evercem DPS starting from the bottom upwards.
- On horizontal surfaces, always apply Evercem DPS with two crosswise coats.
- Curing takes place in about 30 days, but the surface is ready after a few hours. Retaining walls can be buried after 12 hours, while floors are walkable after a few hours. If the floor or the treated wall is going to be painted or resinated, wait 15 to 21 days before the next treatment.
- Evercem DPS is designed to fill and seal visible cracks. It is ineffective on cold joints (in the casting) which must be waterproofed with bentonite or waterstop.
- Do not apply to glass, glazed surfaces or aluminium as etching will occur. In case of accidental contact with eyes, rinse immediately with water.

Coverage

Approximately 3-5 square meter per liter (two coats). The coverage depends on the permeability of the concrete substrate and the surface absorption. It varies according to the absorption capacity of the support. It is advisable to carry out an absorption test before application.

Technical Data

Form: Colorless clear liquid
Flash point: Non-flammable
Specific gravity: 1.094
Odor: None
Solubility in water: Complete
Toxicity: Non-toxic
Dilution: Use undiluted

Technical information

Evercem DPS chemical reaction with concrete (in particular with calcium hydroxide Ca(OH)_2) takes place in

two stages. In the first stage an air-silicate gel is formed which then turns into a glass-like crystalline structure. In the second stage, during a reaction between the Evercem DPS silicate and the calcium hydroxide in the cement, the hydroxide group is vaporized. In short, the chemical reaction ensures that the impregnated layer is dried.

Packaging

In 10 and 20 liters containers.