

CapcoProof® WPC

Permeability Reducing Admixture / Crystalline Water-Proofing Liquid

CapcoProof WPC is a Permeability Reducing Admixture / Crystalline Water-Proofing Liquid (Crystalline Damp-Proofing) of the concrete. This product is based on organic compounds which make crystals in the capillary pores of the concrete during the cement hydration process. These crystals do not prevent the concrete to breathe but avoid the water to be absorbed into the concrete.

This product is produced based on the general Iran National Standard No. 2930-1 and the performance requirements of table 9 of the Iran National Standard No. 2930-2. Also, this admixture meets the requirements of Table 1 of the EN 934-1 standard and the requirements of table 9 of the EN 934-2 Standard.

The physical and chemical properties of CapcoProof WPC are according to the following table and produced in the allowable changing range of Iran National Standard No.2930-1.

Physical State	Liquid
Color	Colorless
Density	1/10 ± 0/02 g/cm ³
Chloride Content	Little
The Alkali Content Based on NaO ₂ %	7.5% ± 0.2
pH	8 ± 1
Freezing Temperature	-5°C

The usage and the effect of the admixture on the concrete

The usage of the admixture on concrete

- The cast-in-place concrete and pre-cast sections
- Cement and sand coating
- Damp-proofing of the water tanks, pools, water wastewater treatment plant, and other structures in contact with water.

The advantages of using the admixture in concrete

- It leads to damp-proofing of the concrete and mortar
- It reduces the permeability and increases the durability of concrete
- It is Chloride ion-free and usable in reinforced and pre-stressed concrete.
- It does not prevent concrete breathing
- It increases the compressive strength of the concrete after 28 days

The instruction to use the admixture in the concrete

The allowable range of using the admixture in the concrete

The allowable range for using The CapcoProof WPC is from 1% to 3% of the cement content (1000 to 3000 grams per 100 kg of cement material weight including cement, silica fume, slag, fly ash, and other similar pozzolans). The concrete mix design, the thickness and volume of the section, and the required amount to reduce permeability are the main indices to determine the amount of using this admixture. The optimum amount of this admixture is obtained by considering the aforementioned indices and carrying out the required tests in the laboratory.

Note: This product only damp-proofs the concrete with high quality; i.e. in case of an improper mix design, a lot of porosity, and large capillary canals, this admixture is not able to damp-proof the pores. Therefore, a proper mix design and a standard implementation of concrete are the first conditions to damp-proof the concrete, and the damp-proofing materials act as complementary.

The instructions to add admixture to concrete

The CapcoProof WPC must be added to the mix in the batching plant while mixing other components in the mix or the truck mixer in the plant. Besides, the following notes must be taken into consideration:

- Mix the concrete for 2 to 5 minutes after adding the admixture and assure the uniform distribution of the admixture in the concrete.

Safety tips while using the admixture

This product is not categorized as a dangerous substance; however, it can be allergic to contact with skin. Therefore, it is necessary to use a suitable gown, goggles, and mask while working and take the following tips into consideration:

- Blink in water for at least 15 minutes in case of eye contact
- Wash your skin with clean water for 15 minutes in case of any contact with the skin
- The contaminated clothes must be washed with suitable detergents to be usable for further work.
- It is necessary to visit a doctor if the injured individual still feels uncomfortable

Other necessary notes in using the admixtures

Compatibility of admixture with other products

The simultaneous use of this product with other admixtures of Capco Company is allowed. However, it is necessary to batch each admixture separately and then add it to the concrete mix.

The corrosion of admixture

This product does not start or extend corrosion in the buried bars in concrete, the pre-stressed steel, floor systems, and the roof made of galvanized steel.

Transportation and storage of the admixture substance

The conditions and maintenance temperature of transportation

The allowable transportation and maintenance temperature of this product is between 0 and 25 °C. It is also necessary to consider the following tips:

- Avoid putting the container having the admixture in direct exposure to sunlight
- Prevent the admixture from freezing

The admixture lifetime

If the containers of this product are conserved and stored in a standard condition, they will be usable for 12 months.

The admixture substance packaging

This product is supplied in 20 Kg gallons, 220 Kg barrels, and 1100 Kg Pallets.

Complementary information

Contact the technical section of Capco Company for complementary information. You can also refer to the performance form of (CapcoProof WPC-PPI) WPC for more information on the performance of this product and its efficiency in the characteristics of fresh and hardened concrete.