

CapcoShot® Ligurete

Accelerating Admixture for Shotcrete / Liquid

CapcoShot Ligurete is an Accelerating Admixture for Shotcrete / Liquid that is used to implement shotcrete. This admixture significantly accelerates the first setting time of the concrete by accelerating the cement hydration reaction. This product is produced based on the general requirements of Table 1 and the performance requirements of table 2 of the Iran National Standard No. 2930-5. Also, this admixture meets the requirements of the EN 934-5 standard. The physical and chemical properties of CapcoShot Ligurete are according to the following table and produced in the allowable changing range of Iran National Standard No.2930-5.

(The previous name of this product was Ligurete)

Physical State	Dense Liquid
Color	Colorless
Density	1/42 ± 0/02 g/cm3
Chloride Content	Little
The equivalent Alkaline Substance	13%
pH	13<
Freezing Temperature	-5°C

The usage and the effect of the admixture on the shotcrete

The usage of the admixture in shotcrete

- The implementation of any spraying concrete (Shotcrete) operation in tunnels, inclined planes, and resolving the raveling and wet soils.

The advantages of using the admixture in concrete

- Accelerating the hydration reaction
- Accelerating the initial and final setting time of the concrete significantly
- Increasing the cohesion of shotcrete components while implementing
- Preventing the freezing of the concrete or mortar

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 CapcoShot Ligurete is from 2% to 8% of the cement material weight (2 to 8 kg per 100 kg of cement material weight including cement, silica fume, slag, fly ash, and other similar pozzolans). The temperature at the time of concrete casting and after that, the concrete mix design, the thickness, and the volume of the concrete section are the main indices to determine this admixture. Specifying the optimum amount of this admixture is accomplished by considering the aforementioned indices and the required test in the laboratory and field evaluation.

It is also recommended to use the water-reducing admixture to reduce the water-to-cement ratio to increase the 28-day compressive strength.

The instructions to add admixture to concrete

This admixture can be used in two different ways:

- 1- Dry shotcrete: in this method, other components of the concrete are mixed without water and admixture and are sprayed out using the air pressure by a spray device. The resulting mixture is then mixed with the combination of water and the accelerating admixture when released from the nozzle and is sprayed on the desired surface as mortar or concrete.
- 2- Wet shotcrete: in this method, the concrete or mortar is made with water and the admixture is then mixed with the concrete or mortar at the end of the nozzle of the spray pump.

Note: With respect to accelerating the setting time of the concrete when adding this admixture, it is better not to use a large amount of this admixture without carrying out the concrete setting time test in the truck mixer or concrete mixer. Besides, the FiberCap 12 can be used along with this admixture in the mix design to reduce the risk of surface cracking.

Safety tips while using the admixture

This product is highly alkaline and can cause serious harm to contact with skin or eyes. Inhaling the steam from this product is dangerous and efficient ventilation should be considered in enclosures. 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 quick-setting admixtures of Capco Company in a mix design is allowed.

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. No Calcium chloride or any other compounds containing chloride is used in producing the CapcoShot Liqueurete.

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 5 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 18 months.

The admixture substance packaging

This product is supplied in 28 Kg gallons, 240 Kg barrels, and 1300 Kg Pallets.

Complementary information

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