



# CapcoPlast<sup>®</sup> LA

## Plasticizer / Low-Range Water-Reducing and Accelerating Admixture

CapcoPlast LA is a superplasticizer/Low-range water-reducing and Accelerating admixture that is used to increase the concrete/mortar consistency without changing the water-to-cement ratio or to reduce the water-to-cement ratio without reducing the consistency as well as reducing the setting time of the concrete and increasing the 1-day compressive strength of the hardened concrete.

This product is produced based on the general Iran National Standard No. 2930-1 and the performance requirements of Table 12 of Iran National Standard No. 2930-2. Also, this admixture meets the requirements of grades E of the ASTM C494 Standard and Table 1 of the EN 934-1 standard, and the requirements of table 12 of the EN 934-2 Standard.

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

(The previous name of this product was Plastit LA)

Physical State	Liquid
Color	Dark Brown
Chemical Base	Lignosulphonate
Density	1/16 ± 0/02 g/cm3
Chloride Content	Little
The equivalent Alkaline Substance	3%
pH	7 ± 1
Freezing Temperature	-3°C

### The usage and the effect of the admixture on the concrete

#### The usage of the admixture on concrete

- Different types of concrete casting at temperatures between 5 and 15°C
- The production of mortars with high quality in cold weather

- The production of the pre-cast concrete sections in standard curing conditions

#### The advantages of using the admixture in concrete

- Reducing the water-to-cement ratio in an equal consistency and increasing the 1-day compressive strength
- Reducing the water adsorption and permeability due to reducing the water-to-cement ratio
- Speeding up the time of making concrete
- Reducing the time of protecting the concrete in cold weather
- A faster opening of the molds

#### The effect of the admixture on fresh concrete

- It reduces the rate and the amount of concrete bleeding
- It does not convey the initial setting time of the standard mortar at 20°C to less than 30 minutes in a congruous dosage.
- It conveys the initial setting time of the standard mortar at 5°C to less than 60% of the time of the mortar without admixture in a congruous dosage.
- The production of air bubbles in the fresh concrete is controlled in a way that the changes in the air percentage remain in the allowable standard range announced in the properties sheet.

#### The effect of the admixture on the hardened concrete

- It increases the short-term 1-day compressive strength of the concrete in an equal water-to-cement ratio.
- It does not reduce the 28-day compressive strength of the concrete in an equal water-to-cement ratio and air bubble percentage.

## **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 CapcoPlast LA is from 0.6% to 1.5% of the cement material (600 to 1500 grams per 100 kg of cement content including cement, silica fume, slag, fly ash, and other similar pozzolans). Specifying the optimum amount of the admixture should be accomplished with respect to the properties of the mix design and the implementation and weather conditions, and finally making the test mixes. The excessive use of admixture may result in the separation of components and concrete bleeding, specifically for the concrete containing quick-setting cement.

### **The instructions to add admixture to concrete**

To use the admixture, it is necessary to dilute the admixture with water twice the volume of the admixture and add it to the concrete that has reached an initial slump of 5 to 8 cm. It is also necessary to take the following notes 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.
- Avoid the direct contact of the admixture with the dry cement and aggregates
- Subtract the water used to dilute the admixture and the water as much as the admixture volume (Before adding to the concrete) from the mixing water of the concrete.
- In case of increasing the slump of the fresh concrete it is necessary to obtain the mix design in a way that does not result in separation of the components and concrete bleeding.

### **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 mixture.

### **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 CapcoPlast LA.

## **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 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 (CapcoPlast LA-PPI) LA for more information on the performance of this product and its efficiency in the characteristics of fresh and hardened concrete.