

## CapcoSet® R

### Retarding Admixture

CapcoSet R is a Retarding Admixture for concrete casting in hot weather. CapcoSet R increases and adjusts the first and second setting time of the concrete by reducing the cement hydration process rate. Also, this admixture increases the time of working with concrete.

This product is produced based on the general Iran National Standard No. 2930-1 and the performance requirements of Table 8 of the Iran National Standard No. 2930-2. Also, this admixture meets the requirements of grade D of the ASTM C494 Standard and the requirements of Table 8 of the EN 934-2 standard.

The physical and chemical properties of CapcoSet R 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 R)

Physical State	Liquid
Color	Colorless
Density	1/12 ± 0/02 g/cm <sup>3</sup>
Chloride Content	Little
The equivalent Alkaline Substance	Little
pH	6 ± 1
Freezing Temperature	-2°C

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

#### The usage of the admixture on concrete

- Different types of concrete casting in hot weather
- Massive concrete casting
- Roller compacted concrete coat
- Transporting the ready-to-use concrete within long distances

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

- Reducing the rate of producing hydration heat in the concrete
- Increasing the setting time and the opportunity to work with concrete.

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

- It increases the initial and final setting time of the standard mortar depending on the amount used
- 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 reduces the initial compressive strength of the concrete to some extent in an equal water-to-cement ratio
- It increases the 28-day 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 CapcoSet R is from 0.4% to 1.2% of the cement material weight (400 to 1200 grams 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. The excessive amount of this admixture leads to an excessive delay in the setting time of the concrete and not setting it in some cases.

## **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. 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 mortar or grout.
- Avoid the direct contact of the admixture with the dry cement and aggregates
- It is recommended to add this product to the concrete in the batching plant (When making 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. No Calcium chloride or any other compounds containing chloride is used in producing the CapcoSet R.

## **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 35 °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 (CapcoSet R-PPI) R for more information on the performance of this product and its efficiency in the characteristics of fresh and hardened concrete.