

## FiberCap® 12

### Poly-Propylene Fibers

FiberCap 12 is a Poly-Propylene Fiber that is used to control plastic shrinkage and reduce the resulting crack. Also, these fibers increase the tensile and flexural strength of concrete to some extent.

This product is produced based on the requirements of the ASTM D7508 and ASTM C1116 Standard.

The physical and chemical properties of the FiberCap 12 are according to the following table:

Physical State	Solid Fibers
Color	Colorless
Specific Weight	0/91 ± 0/01 g/cm <sup>3</sup>
Tensile Strength	250-300 MPa
Elasticity Modulus	1.5 GPa
Length	12mm
Diameter	35 μm

#### The usage and effect of the fibers

##### The usage of the fibers

- The concrete sections and precast curbs
- The paving of the sidewalk, street, warehouses, and industrial sheds.
- The foundation of the underground structures
- Concrete silos
- Composite floors
- Roads and bridge decks
- Cement pipes
- Concrete facades
- Concrete containing silica fume
- Repairing stains and implementing the thin partitions

##### The advantages of using the fibers

- Reducing the cracks due to dry and plastic shrinkage of concrete
- Improving the compressive and tensile strength of concrete
- Reducing the bleeding of the concrete
- Improving the bonding and pumping of the concrete
- Improving the impact and abrasion resistance of the concrete

- Improving the strength of the concrete against fire
- Increasing the thawing and freezing cycle strength
- Harmless

#### The instruction to use the fibers

##### The allowable range of using the fibers

The allowable range of using the fibers is between 600 to 900 g per cubic meter for ready-to-use concrete and 1 to 1.5 kg for paving and precast concrete.

The instruction to use: the aforementioned fibers are in bundles sticking to each other which should be separated by mixing and distributed in the concrete completely. It is better to add the fibers to the mixture of aggregates and cement before adding water and mixed long enough to disperse in the mixture. If the distance from batching to the site is more than 30 minutes, it is better to add the fibers gradually to the mixer at the site and mix for 10 minutes.

##### Note:

- The workability is improved by increasing the fibers used in the allowable range however, the consistency reduces which can be improved by using a suitable plasticizer along with this product.
- using the fibers can increase the first and final setting time of the concrete.
- It is recommended to use CapcoBond MO40 as 1% of the cement in the mix design since there is no bonding between the surface of the fibers and concrete.

##### Safety tips for using fibers

This product is not categorized as a dangerous substance. This material is a polyolefin and can be flammable in direct exposure to direct flame.

## **Other necessary notes in using the fibers**

### **The compatibility of fibers 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 the fibers**

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 substance**

### **The conditions and maintenance temperature of transportation**

The allowable transportation and maintenance temperature of this product is between 0 and 35 °C. It is also necessary to consider the following tips:

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

### **The admixture lifetime**

If the containers of this product are conserved and stored in a standard condition, they will be usable for 5 years.

## **The admixture substance packaging**

This product is supplied in 5 and 20 kg packets.

## **Complementary information**

Contact the technical section of Capco Company for complementary information. You can also refer to the performance form of (FiberCap 12-PPI) FiberCap 12 for more information on the performance of this product and its efficiency in the characteristics of fresh and hardened concrete.