

ONESHOT Micro Fiber

Product Description

It is a monofilament copolymer micro fiber added to fresh concrete for the purposes of preventing plastic shrinkage and plastic seating cracks, reducing their density and reducing their width. It is especially effective in preventing micro cracks with its diameter of 18 μm and lengths of 6-12-18 mm depending on demand.

In large-surface field concretes, floor slabs and coating concretes.

- On industrial floors.
- In water structures.
- In prefabricated concrete elements.
- In stamped concrete.

- In agricultural construction flooring and floor concretes.
- Wet and dry system shotcrete.

- Elements subject to impact, such as driven pile concrete.
- In extruded concrete.
- In repair mortars and plasters.

Technical Specifications

| Characteristics | Material Feature |
|---|------------------|
| Color | White |
| Chemical Structure | 100% Copolymer |
| Density (kg/m ³) | ~1,8 |
| Water Absorption | None |
| Fiber Diameter (μm) | 0,18 (nominal) |
| Fiber length (mm) | 6-12-18 |
| Specific Surface Area (m ² /kg) | 250 |
| Tensile Strength (MPa) | 600 - 700 |
| Module of Elasticity | ~ 5000 |
| Melting Point ($^{\circ}\text{C}$) | 190 |
| Ignition Temperature ($^{\circ}\text{C}$) | 405 |
| Heat and Electrical Conductivity | Low |
| Acid Resistance | High |
| Alkali Resistance | %100 |



Advantages

- It is an alternative to mesh reinforcement for crack control.
- It increases the impact and abrasion resistance of concrete.
- It increases the flexural strength of slab concrete.
- It does not corrode.
- Plastic shrinkage and plastic settlement in concrete and mortar
- It reduces the risk of cracks.
- It increases cohesion in fresh concrete and reduces bleeding (sweating). While cracks are still at the micro level, they prevent their formation and reduce their density.

Suggestions

- It can also be used by adding directly to the fresh concrete at the construction site when necessary.
 - In case of adding to fresh concrete, additional mixing time (3 - 5 minutes at high speed, at least 70 turns) should be applied to ensure homogeneous fiber distribution, and distribution should be controlled.
 - An effective mixing should be done for the homogeneous distribution of the fibers without clumping. Standard procedures should be applied for the protection and curing of fibrous concretes after they are placed.
 - It is not the kind of fiber that prevents and bridges wide cracks caused by loading.
 - It cannot be used as a substitute for structural reinforcement.
 - Joint reinforcements should be placed and joint cuts should be made.
 - The workability of concrete containing Oneshot Micro Fiber is lower than non-fiber concrete.
 - The pulp volume of the concretes where Oneshot Micro Fiber will be used should be increased, and its fluidity should be improved with superplasticizer additives.
- Excessive use of fiber can adversely affect workability.