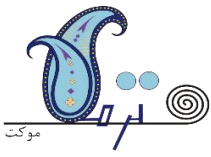


The use of polypropylene fiber to reinforce the mechanical properties of concrete & cement products is an effective method.

Cracks play an important role as they change concrete structures into permeable elements and consequently with a high risk of corrosion. Cracks not only reduce the quality of concrete and make it aesthetically unacceptable but also make structures out of



service. If these cracks do not exceed a certain width, they are neither harmful to a structure nor to its serviceability. Therefore, it is important to reduce the crack width and this can be achieved by adding polypropylene fibers to concrete that decrease plastic and shrinkage cracking and improve toughness. polypropylene fibers can be applied as an alternative to wire mesh in field concrete, walkways, parking areas and screed concrete applications. Using polypropylene fibers in steel reinforcing concrete increases connection between rebar and concrete. In some case such as flooring that particular strength is not considered and water-

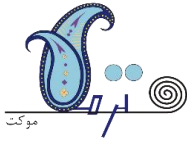


cement ratio is high, polypropylene fiber must be used, otherwise the concrete surface due to water ellipsis is poor and abrasion resistance reduces. Application of polypropylene fiber on runway pavements and the like is notable because of increasing flexural fatigue, impact and flexural strength of concrete.

Polypropylene has a melting point of 160 degrees C and can prevent explosion of pieces of concrete and it can be used for the production of refractory concrete. Polypropylene fibers are chemically inert and hydrophobic, that is they do not absorb water. Therefore, when placed in a concrete matrix they need only be mixed long enough to insure dispersion in the concrete mixture. Monofilament fibers are produced by an extrusion process through the orifices in a spinneret and then cut to the desired length. polypropylene fibers have been widely used in structural and paving applications.

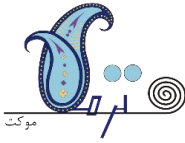
Benefits and functions:

- **In fresh concrete:**
 - Safe and easy to use.
 - Improving homogeneity – i.e. uniformity of mix. Reducing cracking, permeability and bleeding.
 - Improving the compressive strength of ‘young’ concrete.



In hardened concrete:

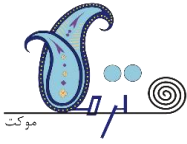
- Improving its durability in weather cycling around freezing point. Improves freeze-thaw durability. Making concrete more impact resilient and resistant to abrasion.
- Improving fire resistance.
- For pre-cast concrete, they make it more "travel friendly" when being transported, on loaded and off loaded as a result of increased tensile and shear strengths.
- Significant weight savings can be made by using fiber reinforced concrete, and that means overall loadings (for example on foundations) are reduced.
- Improving water migration and aid reduction in corrosion of steel reinforcement.
- Producing excellent surface on formed face. Reinforcing against the effect of shattering and exploding forces.
- Provides residual strength.
- Improves flexural strength.



- Alkali resistant and reduces chloride ion / salt migration.

General Applications

- Internal Floor Slabs
- Concrete Framed Buildings
- Underground Construction
- Agricultural Areas
- Water Retaining Structures
- Precast Concrete
- Extruded Concrete
- Airport runways
- Walls
- Box culverts
- Water tanks
- Epoxy Resins / construction works
- Decorative concrete
- Bridges
- Stucco
- Piling Concrete
- Driveways
- Sidewalks
- Shotcrete/Gunite
- Composite decks
- Curbs
- Concrete and cement pipes
- Corrugated concrete sheets
- Marine structures



Applying instruction:

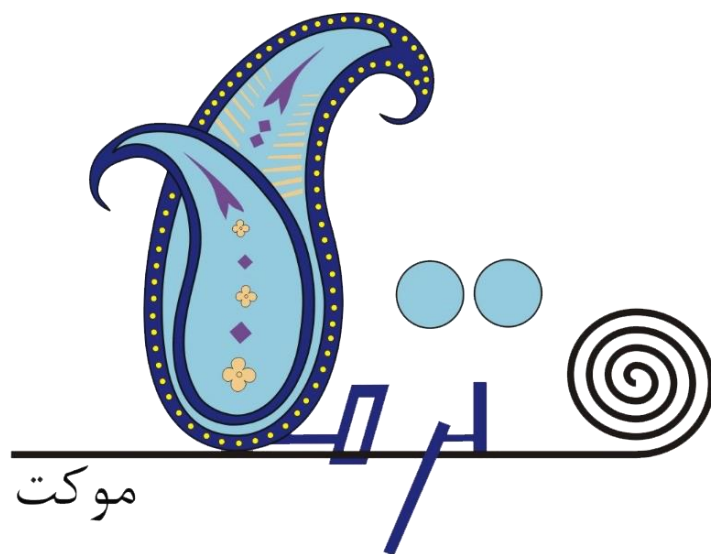
The length of fiber recommended is normally tied to the nominal maximum size of aggregate in the mixture. The length of the fiber should be greater than twice the diameter of the aggregate. This would be consistent with current theories on fiber dispersion and bonding. Monofilament fibers are available in lengths of 6, 12, and 18 mm.

Mixing Directions:

Fibers should ideally be added at the batching plant although in some instances this may not be possible and addition at site will be the only option. If mixing at the batching plant, fibers should be the first constituent, along with half the mixing water. After all the other ingredients have been added, including the remaining mixing water, the concrete should be mixed for a minimum of 70 revolutions at full speed to ensure uniform fiber dispersion. In the case of site mixing, a minimum of 70 drum revolutions, at full speed should take place.

Packaging :

Termeh fibers can be packed in both plastic packs with the capacity of 20 kg each , and also small paper bags with the capacity of 2.5 kg each ,both meet special needs of customers.Also the packaging could be accured in desireable size for special projects.



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