



Concrete Admixtures and Fiber

IMIFIBER-N

Nylon Fiber for Concrete and Mortar

DESCRIPTION

IMIFIBER-N fiber is made from 100% pure nylon, engineered specifically for use in concrete and cement based products. IMIFIBER-N fibers provide multi-dimensional secondary reinforcement, uniformly distributed throughout the concrete mix. IMIFIBER-N aids in achieving optimum strength and durability as well as eliminating 68% to 100% of plastic shrinkage cracks in concrete.

ADVANTAGES

- **Controls surface cracks due to plastic shrinkage**
- **Reduces permeability**
- **Resistant to impact stress**
- **Prevents mildew**
- **Economical to use**
- **Provides secondary, multi-dimensional reinforcement**
- **Replaces welded steel reinforcing**

USES

- **Roofs**
- **Precast Concrete**
- **Tanks**
- **Offices**
- **Tiles on Slopes**
- **Parking Lots**
- **Bridges**
- **Sidewalks**
- **Pools**
- **Industrial Floors**
- **Tunnels**
- **Cellular Concrete**
- **Patios**
- **Pumped Concrete**
- **Ramps**
- **And Many Others...**

APPLICATION

IMIFIBER-N comes packaged in water-soluble bags, and is used at the rate of 1 lb. per cubic yard of concrete (1.3 Lb. per cubic meter of concrete). It can be added to the concrete at the plant during the batching process or in the field, mixing for 4 to 5 additional minutes. We recommend adding IMIFIBER-N at the plant to avoid loss of slump and other problems brought on by excessive mixing.

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TECHNICAL INFORMATION

IMIFIBER-N controls the formation of cracks due to plastic shrinkage and increases flexural strength while the mix is still in its plastic state. This eliminates the formation of wider cracks, which normally form during the time of plastic shrinkage. The fibers are distributed evenly, creating a matrix, which under direct or flexural stress transforms a sudden brittle rupture into a ductile slow rupture. The absence of these wider fissures in the tension zone of concrete reinforced with fibers enhances its resistance to rupture.

RESULTS OF TESTS USING : IMIFIBER-N

TEST	Control	IMIFIBER-N	% of Control	ICBO* Criteria
Flexural	550 PSI	630 PSI	115	Greater Than / Equal To Control
Compression	4,530 PSI	5,170 PSI	114	Greater Than / Equal To Control
Formation of Cracks	n/a	n/a	78.9 Recuction	Min. 40%
Resistance to Adherence	18,970 Lbs.	19,340 Lbs.	102	Greater Than / Equal To Control *

ICBO - International Conference of Building Officials

Based on these results, fibers aid in inhibiting plastic shrinkage without affecting the performance of the concrete in terms of flexural or compressive strength or adhesion.

IMIFIBER-N PHYSICAL PROPERTIES

- *Material* 100% Virgin Nylon
- *Color & Form* White Monofilament Fiber
- *Tensile Strength* 130 – 140 Ksi
- *Modulus (Young's)* 750 Ksi
- *Melting Point* 225°C
- *Flash Ignition Temperature* 304°C
- *Auto-Ignition Temperature* 469°C
- *Chemical Resistance* Good
- *Alkali Resistance* Excellent
- *Acid & Salt Resistance* Good
- *Ultraviolet Resistance* Excellent
- *Electrical Conductivity* Low
- *Thermal Conductivity* Low
- *Absorption* 4 – 5%
- *Specific Gravity* 1.16
- *Bulk Density* 1200 Kg/M³ (approx.)
- *Loose Density* 600 Kg/M³ (approx.)
- *Denier* 6
- *Normal Fiber Length* ¾"
- *Fiber Count* 30 Million per Lb.
- *Normal Dosage* 1.3 Lb./M³