

ULTIMAX

MACRO Concrete Fibers

Description:

Ultimax is NMW's Macro Synthetic Fiber. Unlike the smaller version Micro Synthetic Fibers, Macro Synthetic Fibers are beefier (larger diameter) and longer, 1 ½"-2" (38-50mm). More importantly, to take advantage of the unique engineering properties, the Macro Synthetic Fibers are used at a dosage rate of 3.0 to 6.0 lbs/yd³ and, in some cases up to 9.0 lbs/yd³ (1.8 to 3.6 kgs/m³ and up to 5.4 kgs/m³). **Ultimax** Fibers provide more than secondary reinforcement. ASTM Test Methods C1399 and C1609 are used to provide the post first-crack performance data for the Macro Synthetic Fibers in terms of Toughness and/or Residual Strength. Most specifications for Macro Synthetic Fibers call for the use of ASTM Test Method C1399.

Ultimax is available as either a 1 ½" (38mm) or a 2" (50mm) long highly modified collated fibrillated polyolefin fiber specifically designed to be used in those applications where elevated dosage levels of a longer length synthetic fibers is required. The highly modified fibrillation pattern of the **Ultimax** product ensures optimum mechanical bonding.

Benefits:

- **Ultimax** fibers provide 3-Dimensional reinforcement
- Provides post first crack toughness/residual strength
- Increased fatigue strength
- Provides plastic shrinkage crack reduction and reduced settlement
- Provides secondary/temperature - shrinkage crack reduction
- Significant time and labor cost savings over WWF
- Improves overall durability of the concrete
- Increased Impact resistance
- Reduces Permeability

Applications:

- Light, Medium and Heavy Industrial and Warehouse Slabs-on-ground
- Ultra Thin Whitetopping
- Shotcrete
- Precast Concrete Septic Tanks
- Composite Elevated Decks
- Tilt-Up panels
- Airport ramps, taxiways and aprons

General Specification:

Ultimax is an acceptable Macro Synthetic Fiber capable of meeting the Residual Strength requirements as determined by ASTM Test Method C1399 and also meets ASTM C1116, Section 4.1.3 and Note 3 requirements. **Ultimax** is marketed by NMW, Inc 6553 W. 400 N. Greenfield, IN. Project engineer shall define the length of the Macro Synthetic Fiber as either 1 ½” (38mm) or 2” (50mm). Project engineer shall specify the Residual Strength required as per ASTM Test Method C1399. Said testing must be conducted at an International Code Council ES certified commercial laboratory. Report containing results shall be submitted by the commercial laboratory to the project engineer/ready mix producer/contractor.

Installation:

Ultimax fibers are packaged in pre-weighed paper/degradable bags that are added to the mix at the batch plant. To ensure even fiber disbursement, do not add concurrently with cement. If added after all the standard ingredients, then continue to mix for an additional 3 – 5 minutes.

Normal Dosage range for **Ultimax** fibers is 3.0 – 6.0 lbs/yd³ of concrete (1.8 – 3.6 kgs/m³).

Physical Properties:

Chemical Family.....Polyolefin
 Configuration.....Highly Modified Collated Fibrillated
 Color.....White
 Specific Gravity.....0.91
 Length.....1 ½” (38mm) - 2” (50 mm)
 Tensile Strength.....90,000 - 100,000 psi (620.7-689.7 MPa)
 Chemical Stability.....Excellent
 Absorption.....Nil

Packaging:

Standard Packaging for **Ultimax** fibers is

1.5 lb bags	14 bags / box, 27 boxes/skid
3 lb bags	7 bags / box, 27 boxes/skid
5 lb bags	4 bags / box, 27 boxes/skid
Other packaging options available	

Limitations:

Ultimax fibers are intended to provide post first crack enhancement along with reducing plastic shrinkage cracking and secondary/temperature-shrinkage reinforcement. **Ultimax** should not be used as structural reinforcement. NMW, Inc. warrants that the product sold hereunder is of merchantable quality and conforms to seller's standards and specifications. Seller's sole liability for claim shall be limited to replacement of defective or non-conforming product. In no event shall seller be liable for any special, incidental, consequential, or exemplary damages. NMW, Inc. recommends that each user determine the suitability of the product(s) for their own particular application.

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