MACRO

MacroPro

Highly Modified Fibrillated Macrosynthetic Fiber

SPECIFICATION DATA SHEET

DESCRIPTION

MACRO-PRO® is a highly modified fibrillated polyolefin tape fiber, which meets the definition of the new generation FRC, (i.e. macrosynthetic fibers). Macrosynthetic fibers move the envelope forward in 3-dimensional reinforcement performance. Standard fiber lengths are 1.5" and 2.0" and the dosage range is 3.0 to 11.0 pcy. Confidently embrace this new generation of concrete reinforcement with **MACRO-PRO®**.

Macrosynthetic Fibers are designed to perform at a higher level than the first- generation microsynthetic fibers. Two of the primary sources of improvement are the result of: one, an increased fiber length, a minimum of 1.5" (38mm) versus 0.75" (19mm) for microsynthetic fibers and, two, enhanced mechanical bonding due to an improved configuration.

PHYSICAL PROPERTIES

Materials:	**Polypropylene/Polyethylene.**
Absorption:	**Nil**
Specific Gravity:	**0.91**
Acid & Salt Resistance:	**Excellent**
Tensile Strength:	**70 ksi avg.**
UV Resistance:	**Excellent**
Ignition Point:	**1100°F (590°C)**
Standard Fiber Lengths:	**1.5"(38mm) & 2.0" (50mm)**
Melting Point:	**330°F (165°C)**
Water Absorption:	**Nil**
Alkali Resistance:	**Excellent**
Electrical Conductivity:	**Low**

The higher level of measured performance is demonstrated in post-first crack toughness where the fibers actually carry load across a crack created by an externally applied load. **MACRO-PRO®** fibers have been designed to utilize the physical properties of both polypropylene and polyethylene resins in a highly modified fibrillated tape, where the main fibrils have been increased in cross-section versus conventional fibrillated products.

The modified fibrillation pattern paired with the blend of resins yields outstanding post first crack toughness numbers as measured by ASTM Test Methods C1399, C1550 and/or C1609. **MACRO-PRO®** is a very versatile macrosynthetic fiber, showing excellent mixing and distribution properties. This product has a sparkling five (5) year record of use ranging from commercial to industrial and warehouse slab-on-ground and elevated steel deck applications as well as exterior slabs-on-ground such as roadways and truck terminals and precast products that include septic tanks and utility vaults.

MACRO-PRO® replaces conventional secondary reinforcement, which includes wire mesh and #3 and #4 rebar when used as temperature-shrinkage reinforcement. The in-place cost differential always favors **MACRO-PRO®** particularly when all of the cost components of placing the conventional secondary reinforcement are considered (including the concrete pump when calculating costs for slabs-on-ground). **MACRO-PRO®** Fiber complies with ICC-ES AC32 where applicable, ASTM C1116 Type III, Section 4.1.3 and Note 2. ASTM C1399 and C1609 test data for the MACRO-PRO product are available.

APPLICATIONS
Precast Products

- Septic Tanks
- Burial Vaults
- Jersey Barriers
- Utility Vaults
- Cast-in-Place Concrete
- Floors
- Temperature Reinforcement in Walls

PLACING AND FINISHING

Standard placement and finishing techniques are recommended for **MACRO-PRO®** Fibers reinforced mixes. To optimize the slab surface finishing process, utilize a laser or vibrating screed. The use of a soft cut saw is recommended.

ENGINEERING SPECIFICATIONS

Conforms to: ASTM C1116, Type III, Section 4.1.3 and Note 2.

Test Reports relating ASTM C1399 and C1609 data from TEC Services are available on request by Engineering and Architectural Firms as well as Government Agencies: Federal, State and Local.

GENERAL SPECIFICATIONS

MACRO-PRO® Fibers should be added per engineer's instructions or per standard government agency specifications with the dosage rate established by testing or as dictated by a standard specification. **MACRO-PRO®**Fibers are packaged in pre-measured degradable bags that can be added directly to the mix. The weight of the pre-measured bags can be adjusted to meet the specific dosage rate established for a given project.

INSTRUCTIONS FOR USE

Concrete mixing plant personnel should establish the correct mix design based on the quantity of **MACRO-PRO®** Fibers being added to the mix. Adjustments to the mix may be required and a mid-range or hi-range water reducer is recommended. **MACRO-PRO®** fibers may be added to the concrete at any time before, during or after the batching process, with a single exception...bags may not be added at the same time as the cement. Minimum increase in mixing time may be needed to ensure complete dispersion of the fibers. Follow ASTM C-94, "Standard Specifications for Ready-Mixed Concrete" in assembling a homogeneous mix.

PACKAGING AND SHIPPING

We strive to meet our customers' needs and specifications by shipping our fiber in an inexpensive and timely manner, and by packaging our fiber in infinite ways. We ship within 48-hours of purchase order receipt for less than truckload orders. We can package into bags as small as 0.50-lb. and as large as 30-lbs. Our pallets range in weight from 648-lbs. to 1080-lbs. We remember that we are here because of our customers, and strive to keep them happy!