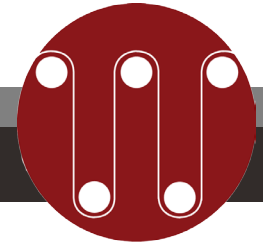




# MacroPro

Macrosynthetic Fibers



## 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. Fiber lengths are 1.5” and 2.0” and the dosage range is 3.0 to 11.0 lbs/CY. 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. This higher level of performance is focused on post-first crack toughness where the fibers become responsible for carrying imposed loads across load created cracks. To perform this task the macrosynthetic fibers must be able to mechanically bond within the concrete matrix and then absorb the applied load to

some predetermined level. This predetermined level is a percentage of the maximum load developed at the point of first crack of the concrete. **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 AC308 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.

PHYSICAL PROPERTIES	
<b>Materials:</b>	Polypropylene/Polyethylene.
<b>Absorption:</b>	Nil
<b>Specific Gravity:</b>	0.91
<b>Acid &amp; Salt Resistance:</b>	Excellent
<b>Tensile Strength:</b>	70 ksi avg.
<b>UV Resistance:</b>	Excellent
<b>Ignition Point:</b>	1100°F (590°C)
<b>Fiber Lengths:</b>	1-1/2” and 2”
<b>Melting Point:</b>	330°F (165°C)
<b>Water Absorption:</b>	Nil
<b>Alkali Resistance:</b>	Excellent
<b>Electrical Conductivity:</b>	Low

### TYPICAL APPLICATIONS

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. Section 4.1.3 and Note 2.



**Fiber Reinforcement and Concrete Additives:** The UL Certificate of Compliance Number 20130305-R19202 (Report Reference R19202-20130305) certifies that representative samples of macrosynthetic fibers designated as Macro Pro have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standards for Safety:** UL263 Fire Tests of Building Construction and Materials. See UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information.

## 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!

### WARRANTY AND LIMITATION OF LIABILITY

As used herein, the term “ABC” shall refer to ABC Polymer Industries, LLC and its subsidiaries.

The terms of ABC’s invoices shall be governed by and construed in accordance with the laws of the State of Alabama.

ABC’s fibers are intended to reduce plastic shrinkage cracking and provide secondary temperature-shrinkage reinforcement. ABC’s fibers should not be used as structural reinforcement. ABC Polymer Industries, LLC warrants that the product sold hereunder is of merchantable quality and conforms to the seller’s standards and specifications. The seller’s sole liability for claim shall be limited to replacement of defective or non-conforming product. In no event shall the seller be liable for any special, incidental, consequential, or exemplary damages. ABC Polymer Industries, LLC recommends that each user determine the suitability of the product(s) for their particular application.

ABC engineering and sales personnel are available to assist in selecting the appropriate fiber for a given specification / application. Said personnel will provide an overview of anticipated performance based upon experience and testing data. ABC personnel will provide recommendations, but are not the final arbiters on design. ABC personnel will provide onsite support where our products are utilized and when deemed necessary, but will not participate in the supervision of any project. ABC’s responsibility is to support our customers and to provide our customers with the best materials and assistance in marketing these products.

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