



PHYSICAL PROPERTIES

Micro - 100% Virgin polypropylene

Absorption: Nil

Specific Gravity: 0.91

Alkali Resistance: Excellent

Melting Point: 320° F (160° C)

Ignition Point: 1,094° F (390° C)

Electrical Conductivity: Low

UV Resistance: Excellent

Modulus of Elasticity: 800 KSI

Denier: 1500

Standard Lengths: ½" (12mm),
¾" (19mm), Graded

DESCRIPTION

FIBRIL-TUF™ is a fibrillated fiber manufactured by ABC Polymer Industries from 100% virgin homopolymer polypropylene resins. **FIBRIL-TUF™** conforms to the requirements of ASTM C1116, Section 4.1.3 and Note 2 as well as meeting the requirements of ICC ES AC32 Sections 3.1.1 (plastic shrinkage reinforcement) and 3.1.2 (temperature-shrinkage reinforcement) and is listed in ICC ESR-1699.

FIBRIL-TUF™ fibrillated fibers are used primarily as plastic shrinkage reinforcement in concrete. They measurably reduce plastic settlement while offering excellent distribution and finishability as well as extending service life by enhancing impact and surface abrasion resistance. The fibrillation pattern was designed to optimize the mechanical bond between the mortar mix and the fiber networks allowing it to better control plastic and drying shrinkage cracking.

APPLICATIONS

- Residential and Commercial Slabs-on-Ground
- Ultra-Thin Whitetopping
- Architectural Precast Products and Ornamental Elements
- Irrigation Ditches/Channels
- Shotcrete Applications

ADVANTAGES

- Excellent distribution throughout the concrete mix
- Excellent temperature-shrinkage reinforcement
- Excellent reduction in plastic shrinkage and plastic settlement cracking
- Extends service life with reduced maintenance
- Increases concrete durability including impact and abrasion resistance and fatigue strength
- Measurably reduces permeability thus increasing freeze-thaw durability

ENGINEERING SPECIFICATIONS

When specifying an option to conventional secondary reinforcement **FIBRIL-TUF™**, is the answer. **FIBRIL-TUF™** ICC ES outperforms the other Microsynthetic Fibers when it comes to providing the optimum 3-dimensional temperature-shrinkage reinforcement system for concrete. A principle reason for this is the additional fibril elements available to the concrete matrix due to the ultra low denier.



Specify ABC's ¾" long fibrillated polypropylene fiber **FIBRIL-TUF™**, at 1.5 pcy (0.9 kgs/m³) as the secondary reinforcement in Plain Structural Concrete. **FIBRIL-TUF™** meets the requirements of ASTM C1116, Section 4.1.3 and Note 2 plus ICC ES AC32, Sections 3.1.1 and 3.1.2.

ICC ES AC32 ENGINEERING PROPERTIES

Test	Control	Fibril-Tuf	% of Control	ICC Criteria
Compressive Strength, psi	4,920	4,920	100%	> Control
Flexural Strength, psi	560	580	103.6%	> Control
Freeze/Thaw Durability	87	90	103.4%	> Control
Bond Strength, psi	1,160	1,200	103.5%	> Control
Plastic Shrinkage Cracking	79.1% (reduction)		Min 40%	
Impact Resistance, blows				
7 days	4	8	200%	Min 200%
28 days	6	10	167%	Min 150%

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!

GENERAL SPECIFICATIONS

FIBRIL-TUF™ fibers should be added per project specifications or engineer's instructions. **FIBRIL-TUF™** fibers are typically introduced at 1.5 lbs. per cubic yard of concrete and are packaged in pre-measured degradable bags that can be added directly to the mix. For Dosage rates outside the typical range, please contact your local ABC Polymer Fiber Representative – ABC Engineering contacts are: Bobby Zellers (724-475-1177) & Ellyn Veal (615-275-8115).

INSTRUCTIONS FOR USE

Typically, no modifications are required when **FIBRIL-TUF™** is used at 1.5 lb per cubic yard, and standard mixing and finishing practices can be employed. **FIBRIL-TUF™** 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. A minimal increase in mixing time may be needed to ensure complete dispersion of the fibers. The normal range is 3-5 minutes with the higher mixing time preferred when the fibers are added after the standard ingredients have been introduced and mixed. Follow ASTM C-94, "Standard Specifications for Ready-Mixed Concrete" in assembling a homogeneous mix. Please contact ABC Polymer if a Letter of Certification for **FIBRIL-TUF™** is needed to show compliance with the specifications referenced above or specific project requirements.

WARRANTY AND LIMITATION OF LIABILITY

"ABC" shall refer to ABC Polymer Industries, LLC and its subsidiaries.

ABC's fibers are intended to reduce plastic shrinkage cracking and provide secondary temperature-shrinkage reinforcement along with post first crack improvement. 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. ABC's liability for claims under this warranty shall be limited to replacement of defective or non-conforming product. Any claims that result from an abuse of the product, misuse of the product, not using the product for its intended purpose or Acts of God are not covered. In no event shall ABC be liable for any special, incidental, consequential, or exemplary damages. ABC recommends that each user determine the suitability of the product(s) for their particular application.

ABC is available to assist in selecting the appropriate fiber for a given specification / application. ABC will provide an overview of anticipated performance and recommendations, based upon experience and testing data obtained from university and third party laboratories. However, customers should consult engineering or design professionals, in evaluating ABC's recommendations. ABC 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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