



PHYSICAL PROPERTIES

Nylon - 100% Virgin Nylon

Specific Gravity: 1.16

Alkali Resistance: Excellent

Melting Point: 490° F (260° C)

Electrical Conductivity: Low

UV Resistance: Excellent

Modulus of Elasticity: 750 KSI

Denier: 18

Standard Lengths: ¾" (19mm)

DESCRIPTION

NY-TUF 1™ is a standard denier monofilament nylon fiber distributed by ABC Polymer Industries. **NY-TUF 1™** is designed to distribute quickly throughout the concrete mix, and it modifies the macro- and micro-cracking properties of the concrete which significantly improves long term durability. **NY-TUF 1™** 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) at the 1.0 pcy dosage rate.

NY-TUF 1™ monofilament fibers are used primarily as plastic shrinkage and temperature-shrinkage crack 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.

APPLICATIONS

- Residential and Commercial Slabs-on-Ground
- Architectural Precast Products
- Ornamental Precast Products
- Dry Package Cement Based Products

ADVANTAGES

- Uniform distribution throughout the concrete mix
- Excellent finishability
- Excellent reduction in plastic shrinkage and plastic settlement cracking
- Measurably reduces permeability, thus increasing freeze-thaw durability
- Increases concrete durability including impact and abrasion resistance and fatigue strength
- Extends service life of concrete
- Delivered to site in ready mix truck

ENGINEERING SPECIFICATIONS

NY-TUF 1™ is an optimum alternative to wire mesh as temperature-shrinkage reinforcement in cement concrete. **NY-TUF 1™** provides a quantifiable Value Engineering option to conventional temperature-shrinkage reinforcement. As seen in Table 1 below, **NY-TUF 1™** benefits a number of the durability properties of the concrete. Most importantly, NY-TUF 1 modifies the micro-macro cracking mechanism.

NY-TUF 1™ is typically specified at the ¾" length and at the 1.0 pcy will provide temperature-shrinkage reinforcement in Plain Structural Concrete. **NY-TUF 1™** 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.

TABLE 1 - SUMMARY OF ICC ES AC32 TEST RESULTS (% OVER CONTROL)

TEST METHOD	AC32 SECTION & PROPERTY	AGE (DAYS)	NY-TUF 1 AT 1.00 PCY	AC32 REQUIREMENTS
ASTM C78	Section 4.1 - Flexural Strength	28	105	100 (min)
ASTM C39	Section 4.2 - Compressive Strength	28	116	100 (min)
ASTM C234	Section 4.3 - Pull-Out Strength	28	148	100 (min)
ASTM C666-A	Section 4.4 - Freeze Thaw Durability	300 cycles	111	100 (min)
AC32 App A	Section 4.5 - Plastic Shrinkage Reduction	Final Set	65	40 (min)
AC32 App D	Section 4.7 - Residual Strength	28	160 psi	50 psi (min)

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

NY-TUF 1™ fibers should be added per project specifications or engineer's instructions. **NY-TUF 1™** fibers are typically specified at ¾" length and introduced at 1.0 lb. 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 **NY-TUF 1™** is used at 1.0 lb per cubic yard, and standard mixing and finishing practices can be employed. **NY-TUF 1™** 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 **NY-TUF 1™** 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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