TUF-STRAND MaxTen™ SUPERMIX

Macro/Micro Synthetic Fiber Blend

EUCLID CHEMICAL

Description

TUF-STRAND MAXTEN SUPERMIX is a macro/micro synthetic fiber blend successfully used as an alternative to steel fibers and welded wire mesh in a wide variety of secondary reinforcement applications. TUF-STRAND MaxTen SuperMix fibers comply with ASTM C1116, Standard Specification for Fiber Reinforced Concrete and Shotcrete, and are specifically used for the reduction of plastic shrinkage cracks, to improve impact, shatter and abrasion resistance, to increase fatigue resistance, to increase toughness of concrete and provide long term durability of concrete and cement based building products. Dosage rates will vary depending upon the reinforcing requirements and can range typically from 4.0 lbs/yd^3 to 6.0 lbs/yd^3 (2.4 kg/m^3 to 3.6 kg/m^3). This product has a minimum blend of 3 lbs/yd^3 (1.8 kg/m^3) of macro synthetic fiber and 1 lbs/yd^3 (0.6 kg/m^3) of micro synthetic fiber. Other blend ratios of macro and micro fibers are available. TUF-STRAND MaxTen SuperMix synthetic micro/macro fibers can save time and money on construction projects by eliminating the purchase, storage, handling, cutting, placing, and waste of welded wire mesh. These fibers are chemically inert and will not corrode.

Primary Applications

- White toppings, bridge decks, and pavements
- Mass concrete
- Vegetation Control

Features/Benefits

- Reduces segregation, plastic settlement, and shrinkage cracking of concrete
- Increases overall durability, fatigue resistance and flexural toughness
- Reduction of in-place cost vs wire mesh for temperature/shrinkage crack control
- Easily added to concrete mixture at any time prior to placement

Technical Information

Property	Macro Fiber	Micro Fiber
Material	polypropylene/polyethylene blend	100% virgin monofilament polypropylene
Type	Non-fibrillated macro fiber	Monofilament micro fiber
Length	1½ in (38 mm)	½ (13 mm) ,¾ in (19 mm), Multi-length
Specific Gravity	0.91	0.91
Tensile Strength	90-100 ksi (620-685 MPa)	N/A*
Aspect Ratio	79	N/A*
Acid/Alkali Resistance	Excellent	Excellent

* Tensile strength and aspect ratio are not applicable for micro fibers based on ASTM D-7508.

Packaging

TUF-STRAND MaxTen SUPERMIX fibers are packaged in 4.0 lb (1.8 kg) and 5.0 lb (2.27 kg) water soluble bags.

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Shelf Life

3 years in original, unopened package.

Directions for Use

TUF-STRAND MaxTen SuperMix fibers can be added to the concrete mixture at any time prior to placement of the concrete. It is generally recommended to add any fiber material at the ready-mix concrete plant during batching. Fibers must be mixed with concrete for a minimum of three (3) to five (5) minutes at maximum mixing speed, depending on the mixer type, to ensure complete dispersion and uniformity. When adding 4 to 5 lbs/yd^3 (2.4 to 3 kg/m^3), a slump loss of up to 2" (50 mm) can be expected for a typical ready-mix concrete design. For higher dosages, increased loss in slump can be expected depending upon the mixture design. The use of water reducers and/or superplasticizers, such as the Eucon series or Plastol series of admixtures may be necessary to maintain desired workability.

Add other admixtures independently from fiber addition. TUF-STRAND MaxTen SuperMix fibers are compatible with all Euclid Chemical admixtures. When used properly, and placed in a concrete mix of sufficient workability, the fibers will not adversely alter the compressive or flexural strength of concrete or shotcrete.

Clean-up

Loose fiber material may be disposed in proper receptacles for refuse. Finishing equipment with fibers embedded in concrete should be thoroughly cleaned.

Precautions/Limitations

- Use of fibers may cause an apparent loss in measured slump of concrete. This may be offset with the use of a water reducing admixture if necessary.
- Fibers should never be added to a "zero-slump" concrete. Ensure a minimum concrete slump of 3" (80 mm) prior to addition of any fiber material. Fibers may also be added in loose form to aggregate charging devices.
- In all cases, consult the Safety Data Sheet before use

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