



TUF-STRAND MAXTEN™

MACRO SYNTHETIC FIBER

DESCRIPTION

TUF-STRAND MAXTEN is a macro synthetic fiber successfully used as an alternate to steel fibers and welded wire mesh in a wide variety of secondary reinforcement applications. TUF-STRAND MaxTen 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 3.0 to 5.0 lbs/yd³ (1.8 to 3.0 kg/m³). TUF-STRAND MaxTen synthetic macro-fibers comply with applicable portions of the International Code Council (ICC) Acceptance Criteria AC32 for synthetic fibers and 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

- Industrial and residential floors
- Whitetoppings, bridge decks and pavements
- Thin walled pre-cast (septic tanks, vaults, walls, etc.)
- Mass concrete

FEATURES/BENEFITS

- Increases impact, shatter and abrasion resistance of concrete
- Reduces segregation, plastic settlement, and shrinkage cracking of concrete
- Provides three-dimensional reinforcement against micro and macro-cracking
- Increases overall durability, fatigue resistance and flexural toughness
- Reduction of in-place cost versus wire mesh for temperature / shrinkage crack control
- Easily added to concrete mixture at any time prior to placement
- Tested in accordance with ASTM C 1399 and C 1609

TECHNICAL INFORMATION

Typical Engineering Data

Material	polypropylene/polyethylene blend	Melt Point	320°F (160°C)
Specific Gravity	0.91	Electrical and Thermal Conductivity.....	low
Typical Dosage Rates	3 to 5 lbs/yd ³ (1.8 to 3.0 kg/m ³)	Water Absorption	negligible
Available Lengths	¾" (19 mm), 1 ½" (38 mm)	Acid and Alkali Resistance	excellent
Aspect Ratio.....	39 / 79	Color	gray
Tensile Strength	87-94 ksi (600 to 650 MPa)		

PACKAGING

TUF-STRAND MaxTen fibers are packaged in 3.0 lb (1.36 kg), 4.0 lb (1.81 kg) and 5.0 lb (2.27 kg) water soluble bags.

SHELF LIFE

3 years in original, unopened package.

DIRECTIONS FOR USE

TUF-STRAND MaxTen 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 3 to 5 lbs/yd³ (1.8 to 3 kg/m³), 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 the Plastol series of admixtures may be necessary to maintain desired workability.

Add other admixtures independently from fiber addition. TUF-STRAND MaxTen 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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