**TUF-STRAND MACRO-SYNTHETIC FIBERS**

**FIBER-REINFORCED CONCRETE PRECAST PRODUCT APPLICATIONS**

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**APPLICATIONS**
- Septic tanks
- Utility vaults
- Manhole risers sections
- Wall products
- Sound panels
- Tunnel segments

**ENGINEERING SERVICES**
- Professional engineers on staff
- Available R&D laboratories
- Carbon-footprint analysis
- Specification review
- On-site consultation and support
- UL-Certified fiber for deck construction
- National account program coordination
- Floor software design assistance
  - ACI 360
  - ACI 544
  - TR34
  - fib Model Code
  - ASTM C1609, 1550, 1399

**FEATURES & BENEFITS**

*TUF-STRAND SF* is a patented, macro-synthetic fiber specifically engineered to replace conventional reinforcing, such as wire mesh and steel rebar for slabs on ground, precast concrete, composite steel decks and shotcrete applications. Engineered dosage rates are based on strength-to-strength calculations and supported by standardized test methods and industry practices. This non-corroding, three-dimensional reinforcement will also provide abrasion, fatigue and impact resistance while increasing service life through improved toughness and durability. By using *TUF-STRAND SF* macro-synthetic fibers, the expense and installation time of conventional reinforcing are eliminated while providing a more durable and tougher concrete. Specifically designed to replace WWM, steel fibers, and light gauge rebar, calculated dosages of *TUF-STRAND SF* provide the same strength capacity as conventional reinforcing in precast concrete.

- Engineered bending-moment calculations
- Patented fiber design
- Project time and cost savings
- Carbon-footprint reduction
- UL/ULC approval (fire rating)
- Reduce cracking and maintenance

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**A PARTNERSHIP WITH EUCLID CHEMICAL MEANS...**

**Concrete Mix Design Assistance** – Euclid Chemical’s technical sales team is experienced in concrete mix designs that work with fibers in combination with chemical admixtures, cement additives, air entrainment and other specialty products.

**Specification and Business Development** – Let our team of specification experts make certain that the right fiber offers the right performance for the application.

**Fiber Training** – To ensure a successful fiber project, Euclid Chemical offers one-on-one training and educational materials along with a full technical and marketing package suited for owners, engineers, contractors and ready-mix producers.

**Engineered Fiber Calculations** – Design aids and other tools are available to all Euclid Chemical customers to determine and specify the correct engineered dosage rates for each individual application that will provide project compliance.

**Industry Association Involvement** – Euclid Chemical is actively involved in promoting and advancing the state-of-the-art in FRC through participation in other trade associations, such as ACI, NRMCA, FRCA, ASA, NPCA and ASTM.