TECHNICAL DATA SHEET

Chryso Concrete Solutions

07/14/2025

STRUX® 85/50

Synthetic Macro Fiber

DESCRIPTION

STRUX® 85/50 fiber is a synthetic macro fiber complying with ASTM C1116/C1116M Type III, which are a unique form of high strength, high modulus synthetic macro reinforcement that is evenly distributed throughout the concrete matrix. It consists of synthetic macro fibers 2 in. (50 mm) in length with an aspect ratio of 85 that have specifically been designed to ensure ease of use and rapid dispersion in concrete.

STRUX® 85/50 is used in concrete to improve the material properties including toughness (post crack energy absorption), impact and fatigue resistance, residual strength and durability.

ADVANTAGES

- Eliminates the need for welded wire reinforcement (WWR) and small diameter bars used as secondary reinforcement
- Enhances safety by eliminating handling of steel fibers, welded wire reinforcement and rebar
- Improved durability, ductility, energy absorption, shatter resistance, fatigue resistance and flexural toughness
- Improves control of both plastic and drying shrinkage
- Quick, easy and safe application; arrives at the jobsite mixed into the concrete and ready to place
- Savings from reduced labor, material and storage costs and shorter construction time compared to secondary reinforcement
- Easily pumped; reduces wear on pump equipment associated with steel fibers
- Reduces shotcrete rebound and improves cohesion

FIELDS OF APPLICATION

- STRUX® 85/50 macro fibers may be used in a variety of ready mix, precast and shotcrete applications including: bridge decks, overlays, whitetopping, pipes, vaults, septic tanks, tunnel linings, slope stabilization, and swimming pools.
- When added to shotcrete and concrete, the primary benefit of STRUX® 85/50 macro fiber is a significant improvement in flexural toughness.

Method of Use

Dosage

- STRUX® 85/50 macro fibers addition rates are dependent on the specific application and desired properties and will typically vary between 5 to 15 lb/yd^3 (3 to 9 kg/m^3).
- Please consult your sales representative for the proper addition rate of STRUX® 85/50 macro fibers for your application.
- Always consult local building codes.

Complimentary Products

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- The utilization of STRUX® 85/50 macro fibers generally requires the use of a mid or high range plasticizer solution such as: MIRA ®, ADVA®, Optima®, Quad®, or Enviromix®, to restore the required workability to macro fiber reinforced concrete. In addition, slight increases in fine aggregate contents may be needed.
- STRUX® 85/50 may be added to concrete at any point during the batching or mixing process. STRUX ® 85/50 should be added at a maximum rate of one bag every 30 seconds. After fiber addition the concrete should be mixed at the recommended mixing speed for a minimum of 70 revolutions to ensure adequate fiber dispersion.
- STRUX® 85/50 macro fibers are compatible with all admixtures. Their action in concrete is mechanical and will not affect the hydration process of the cement or the compressive strength. Each liquid admixture should be added separately to the concrete mix.

CHARACTERISTICS

Product Nature	Mix of polypropylene and polyethylene
Apparent density	0,920
Fiber length	2 in
Ignition Point	1050 °F
Nominal diameter	0.02 in
Tensile strength	80 ksi
Elasticity module	1235 ksi
Melting Point	320 °F
Chemical resistance	High

Nominal Fiber Count: 37,500 per lb; Nominal Aspect Ratio: 85; Absorption: none; Electrical & Thermal conductivity: low

PACKAGING

- 5lb bag

ADDITIONAL CERTIFICATIONS & MARKINGS

- ASTM C1116 / C1116M, Standard Specification for Fiber-Reinforced Concrete, Type III Synthetic Fiber-Reinforced Concrete
- ASTM D7508 / D7508M, Standard Specification for Polyolefin Chopped Strands for Use in Concrete
- ANSI/SDI C-2017, Composite Steel Floor Deck Slabs (Section 2.4.B.15.a.3)
- CSA B66-16, Design, material and manufacturing requirements for prefabricated septic tanks and sewage holding tanks
- U.S. Patent No. 6,569,525
- U.S. Patent No. 6,569,526
- U.S. Patent No. 6,758,897
- U.S. Patent No. 6,863,969

PRECAUTIONS

- All users should acquaint themselves with this information prior to working with the products and follow the precautionary statements.

SAFETY

Prior to any use, please read carefully the Safety Data Sheet.

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