

Steel Pro T1-50™

1. IDENTIFICATION

PRODUCT NAME: Steel Pro T1-50™

OTHER IDENTIFICATION: Cold-drawn steel wire fiber

RECOMMENDED USE: Solely for use as secondary/post-first crack reinforcement in concrete.

SOURCE: ABC Polymer Industries, LLC
545 Elm Street, Helena, AL 35080



2. DESCRIPTION

Steel Pro T1-50 is a cold-drawn steel wire fiber developed solely for use as post-first crack reinforcement in concrete.

Steel Pro T1-50 has been manufactured with hooked ends to enhance interlock within the concrete mix. Data is available to provide evidence of the high level of performance available at all dosage ranges typical to the use of Steel Pro T1-50 as a three-dimensional, temperature-shrinkage and post-first crack reinforcement system.

3. APPLICATIONS

- Light, medium, and heavy industrial, warehouse, and commercial slab-on-ground
- Composite metal decks
- Blast resistant structures
- Ingress-egress roadways (malls, industrial, and warehouse sites)
- Heavy duty pavements (airports, highways)

- State DOTs, specifications and code applications
- Tunnels and mines

4. FEATURES & BENEFITS

- Provides post-first crack residual strength to concrete
- Provides temperature-shrinkage reinforcement
- Increases concrete durability including impact and abrasion resistance and fatigue strength
- Provides uniformly distributed reinforcement throughout concrete, not just in one plane as with traditional steel reinforcement
- Cost-effective alternative to traditional steel reinforcement
- Temperature-shrinkage reinforcement in composite metal deck systems
- Delivered to site pre-mixed

5. PHYSICAL PROPERTIES

Material	Cold-drawn steel wire
Diameter	1.05 mm
Length	50 mm
Aspect Ratio	48
Tensile Strength	145.5 ksi
Coating	None
Deformation	Hooked Ends with Round Shaft
Fibers/lb.	Approx. 1,500 fibers/lb.

6. MIXING INSTRUCTIONS

The steel fibers are pre-packaged in bags or boxes that are NOT water-soluble, hence the steel fibers must be removed from its packaging for use.

To ensure optimum distribution, the steel fibers must be added to the ready-mix drum after the conventional concrete ingredients have been properly mixed.

The steel fibers must be introduced in a constant/uniform rate while the drum is revolving at mixing speed.

A minimum of 75-100 revolutions at mixing speed or 5-7 minutes of mixing at high speed may be needed to ensure complete dispersion of the fibers.

Our **Professional Engineers** are available for consultation on how to establish the optimum design.

7. PRODUCT APPROVALS

- ASTM A820 Type I
- ASTM C1116 Section 4.1.1

Please contact us with any questions regarding this product or if a Letter of Certification for Steel Pro T1-50 is needed to show compliance with the specifications referenced above or specific project requirements.

8. GENERAL SPECIFICATIONS

Steel Pro T1-50 fibers should be added per project specifications or engineer's instructions.

The recommended dosage rate for Steel Pro T1-50 is typically between, but not limited to, 25 to 120 lbs. per cubic yard. However, a specific dosage rate should be established by the project engineer or government agency for a given application based on project conditions and requirements.

Steel Pro T1-50 fibers are not intended to replace primary, structural steel in concrete.

For dosage rates outside the typical range, please contact your **Regional FiberForce Representative**.

9. PLACING & FINISHING

Standard placement and finishing techniques are recommended for Steel Pro T1-50 reinforced concrete mixes.

To optimize the slab surface finishing process, make sure that the fibers on the surface of the slab are encapsulated in the concrete matrix.

To improve the quality of consolidation of the concrete, use a laser or vibrating screed. We also recommend using a soft cut saw.

With FRC mix designs that include this quantity of fiber reinforcement, we recommend adding a mid-range or high-range water reducer to the mix to help enhance workability. We also recommend fabricating trial mixes in the plant laboratory to ensure there is sufficient mortar to coat both the coarse aggregate and the surface area of the fiber.

10. PACKING & SHIPPING

Steel Pro T1-50 fibers are packaged in 44 to 50 lbs. bags or boxes. Depending on the size of the order, the pallets will range between 2,205 and 4,150 lbs.

All orders that are less than a truck load can be shipped within 48 hours of purchase order receipt.

WARRANTY AND LIMITATION OF LIABILITY

As used herein, the term "ABC" shall refer to ABC Polymer Industries, LLC, and its subsidiaries.

The terms of ABC's invoices shall be governed by and construed in accordance with the laws of the State of Alabama.

ABC's fibers are intended to reduce plastic shrinkage cracking and provide secondary temperature shrinkage reinforcement. 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. The seller's sole liability for claim shall be limited to replacement of defective or non-conforming product. In no event shall the seller be liable for any special, incidental, consequential, or exemplary damages. ABC Polymer Industries, LLC recommends that each user determine the suitability of the product(s) for their particular application.

ABC engineering and sales personnel are available to assist in selecting the appropriate fiber for a given specification / application. Said personnel will provide an overview of anticipated performance based upon experience and testing data. ABC personnel will provide recommendations, but are not the final arbiters on design. ABC personnel 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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