



# Earth fiber™



## EARTH FIBER 1/50 ROUND CRIMPED STEEL FIBER PRODUCT DATA SHEET



EARTH FIBER™ 1/50 Round Crimped Steel Fibers are designed specifically for the reinforcement of concrete, mortars and other cementitious mixes. EARTH FIBER™ 1/50 is a cold drawn wire fiber, round crimped end to provide optimum performance within the concrete mix. EARTH FIBER™ 1/50 Round Crimped steel fibers are ASTM compliant and specifically designed to meet or exceed the defined performance requirements.

### Why Earth Fibrex :

- 1. Best Quality at Competitive Prices:** Our steel fibers are known for their superior quality, providing reliable and long-lasting reinforcement, all at competitive prices.
- 2. Extensive Product Range:** We offer a wide range of steel fiber options to cater to different concrete strengthening needs, ensuring the perfect solution for your project.
- 3. Large Manufacturing Capacity:** Our robust manufacturing capacity allows us to efficiently meet the demands of projects of all sizes, ensuring timely delivery.
- 4. Commitment to Integrity and Trust:** We prioritize maintaining strong relationships with our customers by operating with integrity and building trust.
- 5. ISO and CE Certification:** Our steel fibers are ISO and CE certified, guaranteeing their compliance with international standards of quality and safety.

### Primary Applications:

- Ground Supported Slabs
- Jointless Floors & Jointed Floors
- External Roads & Pavements
- Manhole Covers

### Compliance:

- Conforms to ASTM A820, Type I cold drawn wire.
- Testing conforms with ASTM A820.

### Type:

Round Crimped Steel Fiber

### Features & Benefits:

- Provides uniform multi-directional concrete reinforcement.
- Increases crack resistance, ductility, energy absorption or toughness of concrete.
- Improves impact resistance, fatigue endurance and shear strength of concrete.
- High tensile strength fibre bridging joints and cracks to provide tighter aggregate interlock resulting in increased load carrying capacity.
- Provides increased ultimate load bearing capacity which allows possible reduction of concrete section.
- Requires less labour to incorporate into concrete than conventional reinforcement.
- Offers economical concrete reinforcement solutions with greater project scheduling accuracy.
- Ideally suited for hand or vibratory screeds, laser screeds and all conventional finishing equipment.

### Nominal Dimensions:

- Diameter D : 1.00mm;
- Length L : 50mm;
- Aspect Ratio L/D: 50

### Mechanical Properties:

- $R_m$  (Tensile strength of the wire): > 1250mPa .
- $A^l$  (Strain at failure): <4%
- Camber of the Fiber: max. 5% of L'
- Number of Fibers per kg: 3137

### PRODUCT USE

#### Mixing designs and procedures:

Earth fiber 1/50 Round Crimped steel fibers can be added during or after the batching of the concrete but should never be added as the first component. Such devices as conveyor belts, chutes and dispensers may be used to add fibers to the mixer at the ready mix plant. After the fibers have been added, the concrete should be mixed for sufficient time (minimum 5 minutes at full mixing speed) to ensure uniform distribution of the fibers. throughout the concrete. The use of mid or high-range water reducing admixtures can be advantageous, but is not essential.

#### Placing:

Earth fiber 1/50 Round Crimped steel fibers can be pumped and placed using conventional equipment. Hand or vibratory screeds and laser screeds can be used with Earth fiber™ 1/50 Round Crimped steel fibers.

#### Finishing:

Conventional finishing techniques and equipment can be used when finishing Earth fiber 1/50 Round Crimped fibers concrete. In some cases an extra bull float process is advised and lowering the angle of the power float blades will help to minimize fibre exposure on the surface.

#### Dosage Rate:

The fibre dosage will vary depending on the type of application, concrete mix design and the performance / toughness requirements of each particular project. Typically, steel fibre dosage will be in the range of 10 kg to 40 kg per cubic meter. Earth Fibrex Infra Pvt. Ltd. technical team can offer advice on dosage requirements once performance requirements have been established by the project designer / engineer.

#### Compatibility:

Earth fiber 1/50 Round Crimped steel fibers are compatible with all curing compounds, super plasticizers, water reducers, hardeners and coatings.

#### Safety:

It is recommended that gloves and eye protection be used when handling or adding Earth fiber 1/50 Round Crimped steel fibers to concrete.

#### Packaging:

Earth fiber 1/50 Round Crimped steel fibers are available, as standard in 25 kgs Bag.

#### Technical Services:

Earth Fibrex Infra Pvt. Ltd. is backed by our team of reinforced concrete consultants who can carefully analyze each project and provide fibre reinforced concrete design solutions to ensure maximum project performance and cost efficiency.

#### References:

- ASTM A820 Standard Specification for Steel Fibers for Fibre Reinforced Concrete.
- BS EN 14889-1.
- ASTM C1116 Standard Specification for Fiber- Reinforced Concrete and Shotcrete.
- ASTM C1018 Standard Test Method for Flexural Toughness and First Crack Strength of Fibre-Reinforced Concrete.
- IRC:SP:46:1997 Code of Indian Road Congress.
- IS:12592:2002 SFRC Manhole covers

#### Specification clause:

Fibers for concrete shall be Earth fiber 1/50 Round Crimped End steel fibers conforming to ASTM A-820M Type I and manufactured from cold drawn wire with a minimum tensile strength of 1250 mPa / N/mm<sup>2</sup>.

### GEOMETRY EARTH FIBER™ 1/50 Round Crimped Steel Fiber Product Data Sheet



Figure 1

D=1.00mm  
L=50mm  
A/R=50  
Tolerance for D/L ±10%  
As per ASTM

MANUFACTURED BY:

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ASTM INTERNATIONAL

Conforms to  
ASTM A-820M 06



AN ISO  
9001:2015  
Certified Company