



PSI CRIMPED STEEL FIBER FB

STEEL MACRO-FIBER WITH SYNTHETIC FIBRILLATED MICRO-FIBER BLEND

DESCRIPTION

PSI CRIMPED STEEL FIBER FB are low carbon, cold drawn steel wire fibers combined with 100% virgin multi-length fibrillated polypropylene micro-synthetic fibers designed to provide concrete with plastic shrinkage crack protection, temperature and shrinkage crack control, enhanced flexural reinforcement, improved shear strength and increase the crack resistance of concrete. PSI Crimped Steel Fiber FB complies with ASTM C1116, Standard Specification for Fiber Reinforced Concrete and Shotcrete and ASTM A820, Type I, Standard Specification for Steel Fibers for Fiber Reinforced Concrete. This steel macro-fiber blend will also improve impact, shatter, fatigue and abrasion resistance while increasing toughness of concrete. Dosage rates will vary depending upon the reinforcing requirements and can range from 24 to 96 lbs/yd³ (14 to 57 kg/m³).

PRIMARY APPLICATIONS

- Commercial and industrial slabs on ground
- Bridge decks, overlays and pavements
- Precast concrete applications
- Shotcrete, tunnel linings and slope stabilization
- Mass concrete and composite deck construction

FEATURES/BENEFITS

- Increases impact, shatter and abrasion resistance of concrete
- Reduces segregation, plastic settlement, and shrinkage cracking of concrete
- Provides three-dimensional reinforcement against 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

TECHNICAL INFORMATION

Typical Engineering Data

Material.....	low carbon cold drawn steel wire and 100% virgin polypropylene multi-length fibrillated fiber
Available Lengths.....	steel fiber - 1 1/2" (38 mm) synthetic fiber - blend of 1/2" & 3/4" (13 & 19 mm)
Typical Dosage Rates	24 - 96 lb/yd ³ (14 - 57 kg/m ³)
Aspect Ratio	steel fiber - 34
Tensile Strength.....	140 - 180 ksi (966 - 1242 MPa)
Deformation.....	continuously deformed circular segment
Appearance.....	bright, clean wire with white synthetic fiber

PACKAGING

PSI Crimped Steel Fiber FB is packaged in 24 lb (10.9 kg) bags; 1728 net lbs (784 kg) per pallet.

SHELF LIFE

3 years in original, unopened package.

DIRECTIONS FOR USE

PSI Crimped Steel Fiber FB 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. The actual dosage rate will vary depending upon the application and performance requirements for each project. Fibers must be mixed with concrete for a minimum of four (4) to five (5) minutes at maximum mixing speed, depending on the mixer type, to ensure complete dispersion and uniformity. The addition of PSI Crimped Steel Fiber FB, at provided dosage rates, will decrease the measured slump of concrete; however, additional water should not be added. The use of water reducers and/or superplasticizers, such as Eucon 1037, Eucon MRX or the Plastol series of admixtures may be necessary to maintain desired workability.

Add other admixtures independently from fiber addition. 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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