

PRODUCT DESCRIPTION

CSF™ crimped steel fibers are low carbon, cold drawn steel fibers designed to provide concrete with temperature and shrinkage crack control, enhanced flexural reinforcement, improved shear strength and increase the crack resistance of concrete. These steel macro-fibers will also improve impact, shatter, fatigue and abrasion resistance while increasing toughness of concrete.

PRODUCT FEATURES

- 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

PRODUCT USES

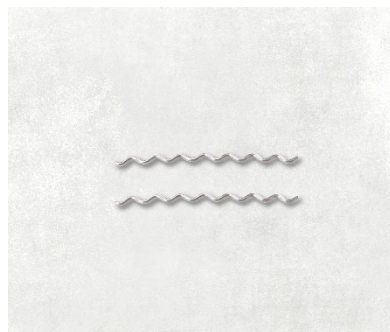
- Commercial and industrial slabs on ground
Increasing the live loads capacity of floor systems
- Bridge decks, overlays and pavements
- Precast concrete applications
- Shotcrete, tunnel linings and slope stabilization
- Mass concrete and composite deck construction

TECHNICAL DATA

Color	Bright, Clean Wire
Material	Low carbon cold drawn steel wire
Deformation	Continuously Deformed Circular Segment
Typical Dosage Rate	15 - 60 kg/m ³
Available Diameters	0.9-1.3 mm
Available Lengths	35-50 mm
Aspect Ratio	39 (for 35 mm length) 38 (for 50 mm length)
Tensile Strength	900 - 1200 MPa

HOW TO USE APPLICATION

CSF™ crimped steel fibers can be added to the concrete mixture at any time prior to placement of the concrete. Dosage rates will vary depending upon the reinforcing requirements and can range from 25 to 15 to 60 kg/m³. It is generally recommended to add any fiber material at the ready-mix concrete plant during batching. 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 CSF™ crimped steel fiber, at provided dosage rates, will decrease the measured



Crimped Steel Fiber - CSF™

slump of concrete; however, additional water should not be added.

The use of water reducers and/or superplasticizers, 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.

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 80 mm prior to addition of any fiber material. Fibers may also be added in loose form to aggregate charging devices.

STORAGE

CSF™ Steel Fiber should be stored under cover and away from heat sources.

CLEANUP

Loose fiber material should be disposed in proper receptacles for refuse. Finishing equipment with fibers embedded in concrete should be thoroughly cleaned.

DISCLAIMER OF LIABILITY

AFZIR, LLC warrants its products to be free from manufacturing defects. Buyer determines suitability of product for use and assumes all risks. Buyer’s sole remedy shall be limited to replacement of product. Any claim for breach of this warranty must be brought within one month of the date of purchase. AFZIR shall not be liable for any consequential or special damages of any kind, resulting from any claim or breach of warranty, breach of contract, negligence or any legal theory. The Buyer, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production.