

Arkaz Steel Fiber SF50

Hooked High Tensile Steel fibers for Concrete and Mortar applications

DESCRIPTION

Arkaz Steel Fiber SF50 is a low carbon, cold drawn and hooked-end steel wire fiber designed to provide concrete with temperature and shrinkage crack control, enhanced flexural reinforcement, improved shear strength and increase the crack resistance of concrete.

Arkaz Steel Fiber SF50 hooked End Steel Fibers are designed specifically for the reinforcement of concrete, mortars and other cementitious mixes.

USES

Arkaz Steel Fiber SF50 characterized by high E-modulus and high tensile strength. They prevent creep of the concrete but do not counter-act early shrinkage. Concrete reinforced with **Arkaz Steel Fiber SF50** will have three-dimensional reinforcing with enhanced flexural toughness, impact and abrasion resistance and will also help mitigate the formation of plastic shrinkage cracking in concrete. **Arkaz Steel Fiber SF50** can be used in :-

- Ground supported slabs
- Suspended Floors
- Shotcrete, tunnel linings and slope stabilization
- Mass concrete and composite deck construction
- Jointless floors
- Overlays and Walls
- Blast-resistant concrete.

TYPICAL PROPERTIES

Density	$\geq 7800 \text{ Kg/m}^3$
Fiber Aspect Ratio	50
Length (mm)	50
Anchorage	Hooked End
Equivalent diameter (mm)	1.00
Material	Bright Carbon Steel
Tensile Strength (MPa)	≥ 1200
Number of fibers /Pack	$\approx 2500 \mu\text{d} / \text{Kg}$
Dosage	20-40 kg / m^3
Consistency effect	8 s.

Arkaz Steel Fiber SF50 may be used as an alternative to welded wire fabric, depending on the application. **Arkaz Steel Fiber SF50** may be used as a replacement for structural or post-crack control steel reinforcement in some situations as for temperature or shrinkage post crack control.

ADVANTAGES

Arkaz Steel Fiber SF50 uniformly distribute multidimensionally throughout the concrete mixture. **Arkaz Steel Fiber SF50** mechanically lock in the fresh concrete matrix providing reinforcement for the mixture where its tensile strength is the weakest. This reinforcement reduces the formation of plastic shrinkage cracking that may otherwise permanently weaken the resulting concrete. The concrete permeability is decreased, while the surface characteristics, impact and toughness properties are improved. Together these effects work synergistically to produce a long-term better quality, more durable and serviceable concrete. The hooked end steel fibers are an exceptionally versatile steel fiber that is suitable for many steels fiber reinforced concrete solutions including precast, shotcrete and pouring applications. The hooked end fiber is a time-saving and economical solution for a variety of applications.

ADDITION RATES

Arkaz Steel Fiber SF50 may be added to concrete at any point during the batching or mixing process. **Arkaz Steel Fiber SF50** can be added to the aggregate during weighing or charging or to the central mixer or truck before, during, or after charging. The load must be mixed at high speed for 5 minutes, or 70 revolutions, after the addition of the **Arkaz Steel Fiber SF50** to ensure uniform distribution. The minimum range of addition for **Arkaz Steel Fiber SF50** is 10 - 20 Kg/ M^3 of concrete. Higher addition rates may be used to produce concrete when special properties are required. The fiber dosage will vary depending on the type of application, concrete mix design and the performance/toughness requirements of each project. Typically, steel fiber dosage will be in the range of 15 kg to 40 kg per cubic meter. Arkaz technical staff can offer advice on dosage requirements once performance requirements have been established by the project designer/engineer.

COMPATIBILITY

Arkaz Steel Fiber SF50 are compatible with all Arkaz admixtures. Their action in concrete is purely mechanical and will not affect the hydration process. Each admixture should be added separately.

SPECIFICATIONS

Arkaz Steel Fiber SF50 are designed specifically for the reinforcement of concrete. **Arkaz Steel Fiber SF50** is a cold drawn collated hooked end (CHE) steel fiber, to provide optimum anchorage within the concrete. **Arkaz Steel Fiber SF50** steel fibers are specifically designed to meet or exceed the defined performance requirements. **Arkaz Steel Fiber SF50** complies with ASTM C1116, Standard Specification for Fiber Reinforced Concrete and Shotcrete and ASTM A820, Standard Specification for Steel Fibers for Fiber Reinforced Concrete. These steel macrofibres will also improve impact, shatter, fatigue and abrasion resistance while increasing toughness of concrete.

PACKAGING

Arkaz Steel Fiber SF50 are available in 10 kg bag, 500 kg bulk bag and 1000 kg bulk bag. Alternative pack sizes are available upon request and should be specified when ordering.

HEALTH AND SAFETY

For more Safety information you can check Product Material Safety Data Sheet, drop an email to Arkaz Concrete Doctor at ConcreteDoctor@arkaz.com or Contact Arkaz Technical Department.

TECHNICAL SERVICE

The technical service department of Arkaz is available to assist in the correct and best use of our products, these resources and advice are at your disposal entirely without obligation.

Please contact:
concretedoctord@arkaz.com

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Printed in K.S.A. Version 2.0
3-March-2021