



ADVANTAGES OF FRC 4550-HE STEEL FIBERS:

- Requires no minimum amount of concrete cover
- Always positioned in compliance with codes
- Safe and easier to use than traditional reinforcement
- Reduces construction time
- Improved durability
- Removal of dowels at induced joints with improved aggregate interlock is allowed

FRC 4550-HE STEEL FIBERS

FRC 4550-HE steel fibers are designed specifically for the reinforcement of concrete and are cold drawn hooked end (HE) steel fiber, to provide optimum anchorage within the concrete. FRC 4550-HE steel fibers are specifically designed to meet or exceed the defined performance requirements. FRC 4550-HE was formerly known as FRC HE-1050 and Novocon 1050 HE. FRC 4550-HE is private labbed for FRC Resources and meets the same codes and standards as SikaFiber Novocon-HE.

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 fiber 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 labor 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

PRIMARY APPLICATIONS

- Industrial slabs-on-ground
- Airport pavements
- Blast resistant concrete
- Equipment foundations

COMPLIANCE

- Conforms to ASTM A820 /A 820M - 04, Type I cold drawn wire

CHEMICAL AND PHYSICAL PROPERTIES

Fiber Length	50mm (2 in)	Tensile Strength	1,100 MPa (159.5 ksi)
Diameter	1.03mm (0.041 in)	Anchorage	Hooked Ends
Aspect Ratio	50	Material Bright	Carbon Steel Wire
Fiber Count, approx	1,300 fibers/lb	Specific Gravity	7.85

PRODUCT USE

MIXING: FRC 4550-HE steel fibers can be added during or after the batching of the concrete. Such devices as conveyor belts and dispensers may be used to add fibers to the mixer at the ready mix plant. After the addition of the fibers, the concrete should be mixed for a sufficient time (batch plant: minimum 5 minutes or 70 revolutions) at full mixing speed to ensure uniform distribution of the fibers throughout the concrete mix.

PLACING: FRC 4550-HE steel fibers can be pumped or placed using conventional equipment.

FINISHING: FRC 4550-HE reinforced concrete can be finished by normal finishing techniques.

APPLICATION RATE: The standard addition rate for FRC 4550-HE fibers is between 25-66 lbs/yd³. FRC Resources technical staff can offer advice on dosage requirements once performance requirements have been established by the project designer/engineer.

COMPATIBILITY

FRC 4550-HE fibers are compatible with all concrete admixtures and performance enhancing chemicals.

SAFETY

It is recommended that gloves and eye protection be used when handling or adding FRC 4550-HE steel fibers to concrete. Full Safety Data Sheets are available on request.

PACKAGING

FRC 4550-HE fibers are available in 44 lb paper bags. There are 50 bags, or 1,000kg (2,204 lbs) on a pallet. Store materials in a cool dry place. Do not store in direct sunlight.

TECHNICAL SERVICES

Trained FRC Resources Fiber specialists are available worldwide to assist and advise in specifications and field service, however they do not engage in the practice of engineering or supervision of projects and are available solely for service and support of our customers.

REFERENCE DOCUMENTS

- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete
- ACI 544-3R Guide for Specifying, Proportioning, Mixing, Placing and Finishing Steel Fiber Reinforced Concrete.
- ASTM 820 Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
- ASTM C 94/C 94M Standard Specification for Ready-Mixed Concrete.
- ASTM C1116/C1116M Standard Specification for Fiber-Reinforced Concrete and Shotcrete
- ASTM C 1436 Standard Specification for Materials for Shotcrete
- ASTM C 1550 Standard Test Method for Flexural Toughness of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel)
- ASTM C 1609 /C 1609M Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading)
- Concrete Society (UK) Technical Report 34 Concrete Industrial Floors

SPECIFICATION CLAUSE

Fibers for concrete shall be FRC Resources 4550-HE steel fibers conforming to ASTM A 820 Type I and manufactured specifically for the reinforcement of concrete. The fibers are manufactured specifically for the reinforcement of concrete. Unless otherwise stated FRC Resources 4550-HE fibers shall be added to the concrete at the batching plant at the recommended application rate of ____ lbs/yd³ and mixed for a sufficient time (min 5 minutes at full mixing speed) to ensure uniform distribution of the fibers throughout the concrete. Fibrous concrete reinforcement shall be supplied by FRC Resources, Seminole, FL. 33772. Tel: 727.433.4350 Website: www.FRCresources.com

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FRC RESOURCES PROVIDES MICRO SYNTHETIC, MARCO SYNTHETIC, STEEL AND BLENDED FIBERS.

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