

NOVOCON® I 050

PRODUCT DATA SHEET



NOVOCON® I 050 STEEL FIBERS

Novocon I 050, formerly Novotex™ I 050, steel fibers are designed specifically for the reinforcement of concrete, mortars and other cementitious mixes. Novocon I 050 is a cold drawn wire fiber, deformed with hooked ends (HE) or flat ends (FE) to provide optimum anchorage within the concrete mix. Novocon I 050 steel fibers are ASTM compliant and specifically designed to meet or exceed the defined performance requirements.

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
- Highway pavements
- Blast-resistant structures
- Equipment foundations

COMPLIANCE

- Conforms to ASTM A 820 / A 820M - 04, Type I cold drawn wire
- Testing shall conform to ASTM C III6/C III6M, ASTM C I 609 / C I 609M and JCI-SF4

CHEMICAL AND PHYSICAL PROPERTIES:

Fiber Length	2 in (50 mm)
Equivalent Diameter	0.039 in (1.0 mm)
Aspect Ratio	50
Tensile Strength	152,000 psi (1050 MPa)
Deformation	Flat end (FE), hooked end (HE)
Appearance	Bright and clean wire

DO SPECIFY NOVOCON I 050 FIBERS:

- For temperature/shrinkage and flexural reinforcement
- Increased crack resistance, ductility, energy absorption or toughness
- Improved impact resistance
- Improved fatigue endurance and shear strength
- Improved durability

DO NOT SPECIFY NOVOCON I 050 FIBERS:

- Replacing structural levels of steel reinforcement

NOVOCON® 1050

PRODUCT USE

MIXING DESIGNS AND PROCEDURES: Novocon® 1050 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 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 (75 rotations 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. Novocon 1050 steel fibers can be pumped, shot or placed using conventional equipment.

FINISHING: Hand or vibratory screeds and laser screeds can be used with Novocon 1050 steel fibers. Conventional finishing techniques and equipment can be used when finishing Novocon 1050 steel fiber concrete. In some cases an extra bull float process is advised and lowering the angle of the power float blades will help to minimize fiber exposure on the surface.

APPLICATION RATE: The fiber dosage will vary depending on the type of application, concrete mix design and the performance/toughness requirements of each particular project. Typically, steel fiber dosage will be in the range of 25 lbs to 75 lbs per cubic yard (15 kgs to 45 kgs per cubic meter). Propex Concrete Systems technical staff can offer advice on dosage requirements once performance requirements have been established by the project designer/engineer.

SAFETY

It is recommended that gloves and eye protection be used when handling or adding Novocon 1050 steel fibers to concrete.

COMPATIBILITY

Novocon 1050 steel fibers are compatible with all curing compounds, superplasticizers, water reducers, hardeners and coatings.

PACKAGING & STORAGE

Novocon 1050 HE and 1050 FE fibers are available in 55 lb boxes. The pallets should be protected against rain and snow. Do NOT stack pallets on top of each other.

TECHNICAL SERVICES

Propex Concrete Systems is backed by our team of reinforced concrete specialists who can carefully analyze each project and provide fiber reinforced concrete design solutions to ensure maximum project performance and cost efficiency.

REFERENCE DOCUMENTS

- ASTM A 820 Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
- ASTM C 94/C 94M Standard Specification for Ready-Mixed Concrete.
- ASTM C 1116/C 1116M Standard Specification for Fiber-Reinforced Concrete.
- ASTM C 1399 Standard Test Method for Obtaining Average Residual-Strength of Fiber-Reinforced Concrete.
- 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). Replaces ASTM C 1018.
- JCI-SF4 Method of Test for Flexural Strength and Flexural Toughness of Fiber Reinforced Concrete.
- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete.
- ACI 506 Guide for Shotcrete.
- ACI 544-3R Guide for Specifying, Proportioning, Mixing, Placing and Finishing Steel Fiber Reinforced Concrete.



UL® Classified: Type Novocon Steel Fibers for use as an alternate or in addition to the welded wire fabric used in Floor-Ceiling D700, D800, D900 Series Designs. Fibers may also be used in Design Nos. G256, G514. Fibers added to concrete mix at a rate of 10 to 50 lb of fiber for each cubic yard of concrete.

SPECIFICATION CLAUSE

Fibers for concrete shall be Novocon 1050 HE (hooked end) or FE (flat end) steel fibers conforming to ASTM A 820 Type I and manufactured from cold drawn wire with a minimum tensile strength of 152,000 psi. Unless otherwise stated, Novocon 1050 steel fibers should be added to the concrete at a rate oflbs/yd³ and mixed for sufficient time (75 rotations at a full mixing speed) to ensure uniform distribution of the fibers throughout the concrete. Fiber reinforced concrete shall be manufactured by Propex Concrete Systems, 6025 Lee Highway, Suite 425, PO Box 22788, Chattanooga, TN, 37422, USA, tel: 423 892 8080, fax: 423 892 0157, web site: fibermesh.com.

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