NOVOCON®

Steel Fiber Reinforcing

UNLEASH THE POWER OF STEEL FIBER

The Organization

A well established organization, SI Concrete Systems is a worldwide leader in the manufacturing and design of steel fiber reinforcing products for concrete. Our long-term commitment to providing superior concrete solutions for our clients has led us to develop the most technologically advanced concrete reinforcing products and optimal mix designs available. Novocon® fibers have been proven to be a superior means of reinforcing concrete.

From our early start in the manufacture of the ribbed Xorex® fiber, we have grown to a company that supplies a variety of concrete reinforcing solutions for projects throughout the world. We are still a very personal team, one in which our greatest satisfaction comes from assisting our customers in the development of the best-valued reinforcing concepts.

"Our goal is to provide the solutions that our customers need by adding superior value through our people and products."

Our People

Our engineers and sales personnel are among the most experienced and knowledgeable in the field. Not only are they experts in Steel Fiber Reinforced Concrete design and installation techniques, they are concrete experts as well. Our technical service professionals are always available to assist you in achieving the most economical and functional concrete design solution to meet your needs.

All projects are important to the Novocon Steel Fiber team. Our engineers will analyze the conditions and make design recommendations for any type of application, large or small. Using proven design and installation methods, each of our representatives is able to assist you in developing solutions that best meet your particular needs.

Our trained representatives are always willing to consult with you on your concrete reinforcing needs. Whether you desire an in-house technical presentation, attendance at a design meeting, pre-construction meeting or onsite representation for the first placement, we can assist you. Our professional technical service department is ready to assist engineers, contractors, concrete producers and owners in designing, specifying and constructing with Novocon Steel Fiber anywhere in the world.

(1) NOVOTEX™

SHOTCRETE Shown on the cover—Novocon steel fiber plays a critical role in the quality of shotcrete (spray applied concrete) linings for mines and tunnels located throughout the world. Substantial improvements in flexural ductility and impact resistance all assist in providing superior protection from spalling and localized "bursts" in the freshly excavated rock. Other applications of steel fiber reinforced shotcrete include slope stabilization, dams, dome structures, water retention structures, etc.

Our Products

All Novocon® fibers are ASTM A820 compliant, and meet strict standards for tensile strength. Each fiber is specifically designed to meet or exceed the performance and economical expectations of our customers. The unique geometry of each Novocon fiber provides exceptional technical performance while maintaining excellent mixing and placement attributes.

Our fibers have been engineered to provide uniform distribution throughout the concrete. There is no need for special collating of the fiber or separation equipment to insure proper dispersion in either ready-mixed concrete or shotcrete. The Company's fiber designs are specifically engineered for easy mixing, placement and finishing.

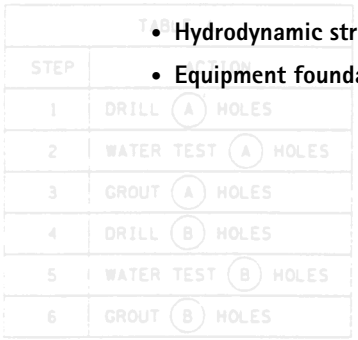
(2) XOREX®

SLABS ON GROUND We manufacture a variety of steel fiber for a superior slab on ground reinforcement solution. Conventional reinforcing mesh or bar mats, if installed correctly, typically control cracking at only one location. Located throughout the entire concrete cross section, fiber will control cracking through the entire concrete section. Steel fiber also provides superior transfer of shear loads across sawed contraction joints, eliminating the need for costly dowels supported in basket assemblies.

COMPOSITE METAL DECKS Steel fibers are the obvious reinforcement solution for composite metal deck construction. Novocon steel fibers have proven to be much more economical and efficient than conventional steel alternatives for these thin elevated concrete slabs. Steel fiber reinforced concrete is easily pumped to multi-storied elevations, minimizing crane time and labor.

Novocon® Steel Fiber Reinforcement — Proven in Use

- **Shotcrete for linings, stabilization, restoration, sewer rehabilitation**
- **Slab on ground**
  - **Heavy Industrial flooring**
  - **Commercial flooring**
- **Composite metal decks**
- **Overlays**
- **Airport runways, taxiways etc.**
- **Highway pavement**
- **Precast products**
- **Blast resistant structures**
- **Vaults and safes**
- **Seismic rehabilitation**
- **Hydrodynamic structures**
- **Equipment foundations**



PRE-CAST Steel fiber reinforcing saves time, labor and money when used in pre-cast concrete products. There is no need to fabricate wire mesh around contoured forms. Just mix and place the SFR concrete and enjoy the additional benefits of superior crack control.

NO CORROSION CONCERN
By definition, corrosion of a metal is a complex electro-chemical process that requires an oxidizing agent, the presence of moisture, and a continuous electron flow network. Unlike SFRC, conventional reinforcing mats (either mesh or tied deformed bar) create a continuous conduction path and/or galvanic cell to permit the initiation of the corrosion process.
When steel fiber is added to a concrete mix, each individual fiber receives a coating of cement paste. The alkaline environment provided by the concrete and its mass protects and isolates each individual fiber from one another. Metal continuity does not exist between steel fiber in a SFRC composite and, therefore, full depth corrosion of the fiber will not occur.

A Better Concrete Reinforcement System

Concrete materials are very brittle when subjected to normal stresses and impact loads. There has always been a need to add reinforcement to concrete to compensate for this lack of ductility. In many cases, the concrete member is kept intact using steel bars or welded wire fabric reinforcement in one or two locations of potentially high stress. If the concrete cracks, the concrete is hinged together at those limited locations.

The introduction of randomly distributed steel fiber reinforcing throughout the concrete mix transforms the hardened concrete material into a more flexible composite system. The tensile stresses of the concrete are not just compensated for in one or two locations. The concrete material is reinforced throughout the entire concrete section, in multiple directions. Steel fiber reinforced concrete is able to withstand much greater stresses, both prior to and after cracking. Homogeneously reinforced concrete has substantially greater fatigue and impact resistance than conventionally reinforced materials, greatly reducing the potential for fractures and spalling. If the concrete should crack, steel fiber reinforcement is able to minimize the crack width.

BETTER CONCRETE

- Composite, multi-directional reinforcement throughout concrete section
- Superior crack width control
- Unequaled impact resistance

BETTER DESIGN

- Superior load transfer stability at contraction joints – no more “rocking”
- Increased flexural toughness
- Increased fatigue endurance
- Increased shear strength

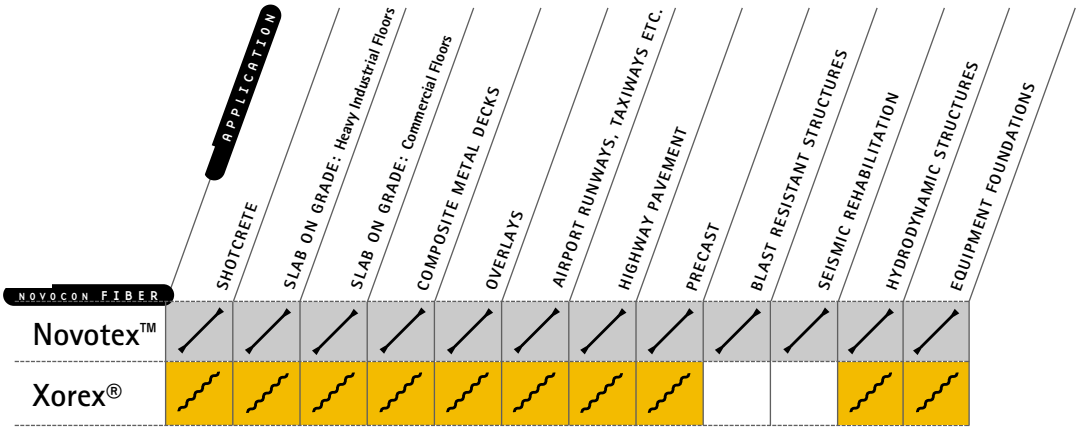
BETTER INSTALLATION

- You know exactly where the reinforcing is located
  - Throughout the entire concrete section
  - Not at the bottom of the concrete slab
- More efficient than rebar or mesh
  - Eliminates the task of detailing, unloading, sorting and placing reinforcing steel
- Less mobilization time required for slab placement
  - Pouring large placements every day is more feasible
  - Adds greater flexibility to the schedule
- Easier to place
  - No more tripping over reinforcing steel or dowel baskets
  - No more lifting heavy mats of tied rebar

BETTER BOTTOM LINE

- Reduce labor costs dramatically over traditional reinforcing
- Reduction in required slab thickness over conventional designs
- Eliminate dowel baskets at contraction joints
- Eliminate pumping costs for most slab on ground applications
- Lower maintenance and life cycle costs

Novocon® Fibers are designed for your specific application needs



Novocon® Steel Fiber

SI® Concrete Systems

USA: 4019 Industry Drive, Chattanooga, TN 37416
Phone: (423) 892-8080 • Fax: (423) 892-0157

Europe: Hayfield House, 1st Floor, Durrant Road, Chesterfield, Derbyshire, United Kingdom S41 7ST
Phone: (+44) 1246 564200 • Fax: (+44) 1246 564201

www.novocon.com

4/02 5M