



## Fibercon International

In the late 1950s, United States Steel funded a research project at Carnegie Mellon University. The goal was to find a way to use steel fibers to increase the overall strength of concrete.

### THE RESULT

Fibercon steel fiber technology has proven to increase crack stability, minimize crack propagation, and improve impact and fatigue resistance.

In 1980, the Mitchell family purchased Fibercon from US Steel. In 1981, the plant was moved to its present location in Evans City, PA. From that humble beginning, Fibercon International has emerged as one of the world's leading manufacturers of steel fiber reinforcement for the concrete construction and refractory industries.

In addition to manufacturing carbon steel and stainless-steel fibers, the operations include continuing research and development of fiber technology to improve and expand the application of steel fibers. Fibercon's research and development is continually refining its products and developing solutions to industry problems, both in the lab and in real-world conditions.



to a circular shape. This shape is important since the larger the surface area, the better the bond between the fiber and the concrete matrix. Bond is important in reducing crack growth. Cracks in concrete are a prime reason for using steel fibers in concrete.



Fibercon steel reinforcing fibers used in East Side Access Tunnel, NYC

### STEEL FIBERS

Fibercon steel fibers are manufactured under the slit sheet process as described in ASTM A820. The slit sheet process describes a fiber of rectangular shape. This shape was chosen due to its increased surface area when compared



### THE MORE, THE MIGHTIER

Our slit sheet process allows Fibercon to manufacture steel fibers with high fiber counts. This is also important for control cracks. It has long been known that, as reinforcement is progressively sub-divided at a constant volume with a corresponding increase in specific surface area, the size and spacing of tensile cracks in concrete decreases. Decreasing crack size so they become invisible to the eye is important in steel fiber design.

### PERFORMANCE

Performance includes results from the lab as well as the field. Fibercon continues research and development in the



lab to develop concepts which can be converted to improve the performance of steel fibers in the field. Taking lessons learned in the lab to the field is an important aspect in Fibercon's product development.

### MIXABILITY

Performance is only one aspect of a good fiber. If you can't incorporate them into the concrete, the steel fibers will not be able to perform their intended function. Fibercon fibers are designed with this in mind. Balling of fibers was a problem with the first fibers in the 1960s. Fibercon has addressed this issue by developing fibers with the proper length and aspect ratio. Now fibers can be added to the concrete without worrying about balling. Without balling issues, you can be assured that the fibers will be well distributed in the concrete mix.

### PLACABILITY

Concrete must be easily placed in many different applications. For slab-on-ground, it must be truck dumped which can be easily worked by the finisher. Composite steel decks require a mix that can be pumped to different elevations easily. In shotcrete, the fibers must go through a 1-1/2 in. (38 mm) nozzle. Fibercon has designed fibers that make

placing steel fiber reinforced concrete as easy as placing conventional concrete.

### FINISHABILITY

Fibers on the surface of any application were a problem in the past. Fibercon fiber takes this into account with its different designs. On slab-on-ground and composite steel decks, fibers on the exposed surface have almost disappeared when using Fibercon fibers. You can't say this about other fibers.

## FIBERCON INTERNATIONAL

100 South Third Street

Evans City, PA 16033

fiberconfiber.com

Phone (724) 538-5006 | Toll Free (800) 521-9908

Fax (724) 538-9118

## FIBERCON UK, LTD.

Loughborough Technology Center

Unite 23-24 Epinal Way

Loughborough LE11 3GE, UK

Phone: 44-1509-211860