

# DonFiber ST Type I

High performance steel fibers with hooked ends for reinforcement of concrete and mortar (Formerly known as ST Fiber Type 1)



## DESCRIPTION

DonFiber ST Type I is steel wire filaments with hooked ends, to provide optimum anchorage within the concrete. DonFiber ST Type I is designed for use with all types of concrete mixes to enhance mechanical properties and reduce plastic shrinkage cracking.



## APPLICATIONS

DonFiber ST Type I is ideally designed for use in the following applications:

- » Shotcrete.
- » Tunnel segments.
- » Pre-cast concrete.
- » Industrial floors.
- » Composite decks.
- » Pavements.
- » Slabs on piles.
- » Foundation slabs.
- » Shear reinforcement in prestressed elements.
- » Slab-on-grade.

## ADVANTAGES

- » Increases the compressive and tensile strength capacity.
- » Increases the load bearing capacity.
- » Increases the flexural bending strength.
- » Increases the fatigue and abrasion resistance.
- » Improves the resistance to impact and dynamic loads.
- » Reduces the shrinkage cracks due to full depth reinforcement distribution.
- » Cost effective, replaces the need of reinforcement wire mesh, thus it can achieve up to 15% cost reduction in floor construction compared with one reinforced by traditional reinforcement mesh.
- » Reduces the construction time by eliminating fitting time of reinforcement steel and replacing with fibers dispensing.
- » High resistance to fire.

## STANDARDS

DonFiber ST Type I complies with ASTM A820, Type I and EN 14889-1.

## METHOD OF USE

To ensure proper mixing, DonFiber ST Type I should never be added as the first component of the concrete or mortar mix. DonFiber ST Type I should be added during or after the batching of the concrete mix.

## TECHNICAL PROPERTIES:

Appearance:	Hooked end steel fiber
Cross section:	Round
Tensile strength of drawn wire:	1100 - 1400 MPa

## PRODUCT RANGE:

Designation	Length (mm)	Diameter (mm)	Aspect ratio (L/D)
ST/F 0.55 x 30	30 ± 5%	0.55 ± 5%	54
ST/F 0.55 x 35	35 ± 5%	0.55 ± 5%	64
ST/F 0.60 x 30	30 ± 5%	0.60 ± 5%	50
ST/F 0.60 x 35	35 ± 5%	0.60 ± 5%	58
ST/F 0.65 x 40	40 ± 5%	0.65 ± 5%	62
ST/F 0.70 x 50	50 ± 5%	0.70 ± 5%	71
ST/F 0.75 x 30	30 ± 5%	0.75 ± 5%	40
ST/F 0.75 x 35	35 ± 5%	0.75 ± 5%	47
ST/F 0.75 x 50	50 ± 5%	0.75 ± 5%	67
ST/F 0.75 x 60	60 ± 5%	0.75 ± 5%	80
ST/F 0.80 x 50	50 ± 5%	0.80 ± 5%	62
ST/F 0.80 x 60	60 ± 5%	0.80 ± 5%	75
ST/F 0.90 x 35	35 ± 5%	0.90 ± 5%	39
ST/F 0.90 x 38	38 ± 5%	0.90 ± 5%	42
ST/F 0.90 x 50	50 ± 5%	0.90 ± 5%	55
ST/F 0.90 x 60	60 ± 5%	0.90 ± 5%	67
ST/F 1.05 x 35	35 ± 5%	1.05 ± 5%	33
ST/F 1.05 x 50	50 ± 5%	1.05 ± 5%	48
ST/F 1.05 x 60	60 ± 5%	1.05 ± 5%	57
ST/F 1.20 x 50	50 ± 5%	1.20 ± 5%	42
ST/F 1.20 x 60	60 ± 5%	1.20 ± 5%	50



# DonFiber ST Type I

Mixing time should be continued for 5 minutes or 70 revolutions to ensure a uniform distribution of the fibers in the concrete mix. The addition of DonFiber ST Type I at the recommended dosage rates may decrease the slump; however, additional water should not be added. To achieve the desired workability, only a water reducing or high range water reducing admixture should be used.

The addition of DonFiber ST Type I at the recommended dosage rate does not require any changes in mix design or application changes. The fiber reinforced concrete can be mixed, sprayed or placed using conventional equipment.

## DOSAGE

The guidance dosage of DonFiber ST Type I is 10 - 60 kg per m<sup>3</sup> of concrete. Representative trials should be conducted to determine the optimum dosage of DonFiber ST Type I to meet the performance requirements by using the materials and conditions in actual use.

*Note: A dosage of DonFiber ST Type I at a rate of 3,000 - 4,000 pieces in m<sup>3</sup> of concrete will diagonally intercept the propagation of any initial crack, this will ensure that the maximum crack width - if occurred - will not exceed 0.3 mm.*

## PACKAGING

DonFiber ST Type I is available in 20 kg bags.

## STORAGE

Store under cover away from heat sources.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.

## CAUTIONS

## HEALTH AND SAFETY

There are no health risks associated with proper use of the product.

For further information refer to the Material Safety Data Sheet.

## MORE FROM DON CONSTRUCTION PRODUCTS

A wide range of construction chemicals products are manufactured by DCP which include:

- » Concrete admixtures.
- » Surface treatments
- » Grouts and anchors.
- » Concrete repair.
- » Flooring systems.
- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

### Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.