

# KingFiber® ST50

Polyolefin reinforcement fibers.

## DESCRIPTION

KingFiber ST50 is a structural synthetic fiber reinforcement added to concrete and shotcrete to replace welded wire reinforcing mesh and steel fibers.

## APPLICATIONS

- ☒ For roads, highways, bridge decks and parking lots. For airport runways.
- ☒ For high load impact areas, and forklift truck areas. Pre-cast panels.
- ☒ Other applications to replace wire mesh.

## ADVANTAGES

- ☒ Flexural toughness equal to steel.
- ☒ Long term durability corrosion free.
- ☒ Safer and lighter to handle than steel.
- ☒ Reduced fire damage anti-spilling.
- ☒ Reduced wear on concrete pumps and hoses.

## STANDARDS

KingFiber ST50 is complies with ASTM C1550.

## METHOD OF USE

### MIXING

- ☒ KingFiber ST50 fibers should be added prior batching the concrete as the following:
- ☒ Determine the correct number of KingFiber ST50 bags per batch.
- ☒ Add KingFiber ST50 bags to the empty agitator.
- ☒ Add initial batch water.
- ☒ Mix for one minuet before adding dry materials.
- ☒ Add dry materials and mix for 5 minutes.
- ☒ KingFiber ST50 is packaged in a water soluble paper bag. It is recommended that the bag and contents are added to an empty agitator prior to loading other materials. KingFiber ST50 disperses uniformly following 5 minutes of mixing. Dose rates in the range of 7 kg/ m<sup>3</sup> may reduce slump by approximately 20 mm.

## TECHNICAL PROPERTIES

Base resin:	Polyolefin
Length:	48 mm
Tensile strength:	550 MPa
Surface texture:	Continuously embossed
No. Fibres:	> 35/ kg
Specific gravity:	0.9 – 0.92
Young modulus:	10 GPa
Melting point:	150 – 166°C
Ignition point:	Over 450°C

## NOTE:

In the case of adding KingFiber ST50 fibers after batching the concrete, the following procedure must be followed:

- ☒ Ensure the slump is 80 mm or greater.
- ☒ Ensure the agitator is revolving at an appropriate mixing speed.
- ☒ Add KingFiber ST50 “bag and all” to the mix.
- ☒ Ensure each bag is allowed to mix for 30 seconds before the next bag is added.

## PUMPING

KingFiber ST50 fiber can be pumped through 50 mm rubber hoses without difficulty. Precaution should be taken to ensure the fibers can pass freely through the pump hopper grate.

## DOSAGE

KingFiber ST50 fiber can be dosed between 2 - 20 kg/ m<sup>3</sup> depending on project requirements typical dose rate fall in the range of 3 kg/ m<sup>3</sup> for concrete floors and 5 kg/ m<sup>3</sup> for shotcrete applications in normal ground conditions.

## PACKAGING

KingFiber ST50 is available in 5 kg bags. Bulk bags available on request.

## STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.



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## HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

## QUALITY AND CARE

All products originating from KingKrete's Middle East facility are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, ISO 14001 and ISO 45001.

\* Properties listed are based on laboratory-controlled tests.  
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### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

### NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by KingKrete Inc. either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not KingKrete Inc. are responsible for carrying out procedures appropriate to a specific application.

