

# Wiking® 4012 SP 12 mm

**Wiking® 4012 SP 12 mm, our high-performance fibre is being used as a strong and cost transparent addition or as an alternative to steel mats and steel fibres for concrete reinforcement.**

**A macro fibre made of polyolefins for the application in industrial floors and the shotcrete area to prevent crack formation, increase work capacity and post cracking tensile strength following System 1.**

## Benefits and characteristics

- An alternative to crack controlling reinforcement meshes
- Improves resistance to bending
- Our fibres are not magnetic
- Improves shock resistance
- Increased indirect tensile strength
- Strong post cracking performance
- Reduces the bleed and shrinkage of the concrete

## General fields of application

- Shotcrete
- Upper concrete layer - parking decks etc.
- Concrete products
- Hall floors
- Agricultural construction
- Operational areas

## Mixing instructions

When preparing wet cement mixtures, the fibre should be added to the concrete mixer together with all the other ingredients. When preparing dry cement mixtures, first add the fibres into the concrete mixer, followed by the mixture batches which are to be added little by little. The fibres spread very well within the mixed batch and increase its rigidity. Balance out the consistency by using super plasticizer.

The fibre guarantees a quick and even 3D spread into the concrete matrix. The mixing time per mixing volume is approx. 60-90 seconds; preliminary testing in the truck trailer at highest rotation for approx. 10 min.

A manual installation, using an extractor and a plastering trowel, as well as the installation by a laser controlled screeding machine are possible.

## Specification

We recommend mixing samples before using Wiking® 4012 SP 12 mm in a project. This is to secure that the treatability, the rheology and the strength of the concrete are documentable.

Please note that Wiking® 4012 SP 12 mm has been successfully used in self-compacting zero-energy concrete, pumped concrete and shotcrete.

## Delivery program

Wiking® 4012 SP 12 mm is available in 480 kg pallets, 24 x 20 kg carton, carton 15 x 1 kg packages. Minimum quantity is to be determined in a common agreement.

## Surface treatment

The fibre surface is treated in a special way with regard to high dispersibility and adhesion ability in the concrete. This treatment simultaneously reduces the air inlet into the concrete to approximately 1-3.0 %, and air void inspections of the different concrete recipes are hereby advised before every concreting.

## Guarantee references

Wiking® 4012 SP 12 mm complies with EN-14.889-2, fibre class 1a, system 1 and is produced in an installation that is certified with ISO 9001-2004. Danish Fibres does not have control over the installation of their products and their processing, and therefore cannot take responsibility for the final products.

## Health and safety

Please read the specific safety data sheets or contact the technicians at Danish Fibres.

## Technical consultation

The technical department at Danish Fibres is available to you and can give advice about the correct use of our products.

### Specifications - Wiking® 4012 SP 12 mm

Material:	80 % new PP, 20% additives
Fibre length:	12 mm
Density:	1.01 g/cm <sup>3</sup>
Design:	monofilament
Diameter:	700 µm
Tensile strength:	396 MPa
E-module:	5650 MPa
Resistance against alkalis:	high
Water absorption:	zero
Softening temperature:	approx. 160°C nominal
Dosage:	3-7 kg/m <sup>3</sup> concrete

### For static measurements following Eurocode 1-8

Requirements of the EN 14.889-2, fibre class II, system 1

Bending bar tests following EN 14.651

Measurement values determination, ÖVBB Rilie Faserbeton 2008

Proof of the EV work capacity following Rilie SpC 2009

CE declaration of conformity No 1077- CPR - 44305101

Our static fibres also ensure high shock resistance and a good post cracking performance of the concrete.

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