

Product Datasheet

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Sika® Fibermesh® 650 S

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Synthetic macro-fibres for reinforcement of concrete

Product description

Sika® Fibermesh® 650 S is a graded macro-synthetic fibre for reinforcement of concrete and shotcrete. In typical applications Sika® Fibermesh® 650 S results in increased ductility of the concrete and after-crack flexural strength as well as a reduction of plastic shrinkage cracks. Sika® Fibermesh® 650 S is alkali resistant.

Uses

Sika® Fibermesh® 650 S is recommended for the following applications:

- Industrial floors
- Shotcrete
- Agricultural construction
- Roadways and pavements
- External hardstandings
- Architectural concrete
- White toppings and overlays

Characteristics / advantages

Sika® Fibermesh® 650 S is expected to give the following properties in concrete applications:

- Improved cohesion and reduced risk of separation
- Reduced risk of cracks from plastic shrinkage
- Improved flexural strength and crack behaviour
- Increased resistance to impact and shock stress
- Improved abrasion resistance
- Reduced wear on machinery, such as mixers, pumps and pipes

Sika® Fibermesh® 650 S has the following advantages compared to the usage of steel fibres and traditional steel mesh:

- Low conductivity for use in applications where there is a need for low conductivity or magnetic interference
- Non corrosive fibre for use in application where corrosion/rust is unacceptable for durability or aesthetic reasons
- Low weight for ease of handling

Tests

Approval / standards

Conforms to the requirements of EN 14889-2, Class II.

Product data

Form

Appearance / colour

Colourless to white fibre with irregular cross-section

Packaging

High density, water soluble bundles/packs, 10kg in cardboard box

Storage



Storage conditions / shelf -Life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging, in dry conditions at temperatures between +5°C and +25°C. Protect from direct sunlight, humidity and frost.
Technical data	
Chemical base	Polyolefin.
Density	0,90 g/cm ³
Length	53 ± 5 mm
Diameter (equivalent)	0,46 ± 0,02mm
Tensile strength	613 MPa
E-module	5,4 GPa
Melting point	162 °C
Ignition point	593 °C
Chemical resistance	High
Alkali Resistance	Alkali proof
Absorption	Nil
System information	
Application details	
Consumption / dosage	Typical dosage for concrete: 3 – 8 kg per cubic metre of concrete.
Application conditions / limitations	
Compatibility	Sika® Fibermesh® 650 S may be combined with many other Sika® products. Important: Always conduct trials before combining products in specific mixes and contact our Technical Service Department for information and advice about any specific combinations.
Application instructions	
Dispensing / mixing	<p>Sika® Fibermesh® 650 S can be added to the concrete at any time during the mixing process, but it is preferable to add it as early as possible during the mixing process in order to reduce the extra mixing time required to evenly distribute the fibers in the concrete mix.</p> <p>When Sika® Fibermesh® 650 S is added to the dry mixture, a dry mixing time of approximately 30 seconds followed by a wet mixing time of at least 90 seconds is recommended to evenly distribute the fibres in the concrete mix. The minimum required mixing time to evenly distribute the fibres in the concrete mix, is dependent on the mix design, mixing procedure and mixing equipment, and longer mixing times than specified in this document might be necessary.</p> <p>For ready mix concrete production it is possible to add Sika® Fibermesh® 650 S directly to the truck mixing unit. When Sika® Fibermesh® 650 S is added to the truck mixing unit the mixing time should be at least 1 minute per cubic meter of concrete, with a minimum of 5 minutes per truck load. Depending on the efficiency of the truck mixer it might, in some cases, be necessary to increase the truck mixing time to 15 minutes.</p>
Application method / tools	<p>The standard rules of good concreting practice, concerning production and placing, are to be followed.</p> <p>Concrete with Sika® Fibermesh® 650 S can be produced, pumped and placed with normal equipment and procedures.</p> <p>Fresh concrete must be cured properly and as early as possible.</p>
Notes on application / limitations	The addition of Sika® Fibermesh® 650 S to the concrete can lead to a reduction of the consistency of the concrete. Do not add additional water to the concrete to adjust for the reduced consistency. If there is a need to adjust the consistency of

the concrete after addition of Sika® Fibermesh® 650 S, a suitable plasticizer or superplasticizer should be used such as Sika® Plastiment® or Sika® ViscoCrete®.

Value base All technical data stated in this product data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Local Restrictions Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local product data Sheet for the exact description of the application fields.

Health and safety information For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data

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