BUILDING TRUST

PRODUCT DATA SHEET

Sika® Fibermesh-650 S

MACRO-SYNTHETIC FIBRES FOR CONCRETE

PRODUCT DESCRIPTION

Sika® Fibermesh-650 S is an engineered graded macro-synthetic fibre featuring e3 patented technology, manufactured to an optimum gradation and oriented to allow greater surface area contact within the concrete, resulting in increased interfacial bonding and flexural toughness. Sika® Fibermesh-650 S is specifically engineered and manufactured in an ISO9001:2008 certified facility for use as concrete reinforcement. Complies with European Standard EN 14889-2: 2006 Polymer Fibres - Definitions, specifications and conformity.

e3 Technology

Just as well graded aggregates enhance concrete, Sika® Fibermesh-650 S with e3 technology is a blend of graded fibres designed to enhance the distribution and performance of fibre reinforcement. Each package of Sika® Fibermesh-650 S fibres is engineered in three ways - by length, thickness and mix ratio. The result is superior combinations of crack control and overall concrete performance.

USES

- Sprayed Concrete
- Sea Defence
- External roads / Pavements
- Airport pavements
- Precast
- Slope stabilisation

CHARACTERISTICS / ADVANTAGES

- Graded macro-synthetic fibre for concrete reinforcement
- Greater surface area provides increased flexural toughness (residual strength) equivalent to steel.
- Increases concrete durability - Corrosion free
- Inhibits plastic shrinkage and settlement cracking
- Controls drying shrinkage and temperature cracking
- Pumpable reinforcement with reduced wear on pumps and hoses
- Safe & easy to handle
- Simplified logistics
- Optimized balance bewtween high aspect ratio, performance and finishing
- Economical alternative system to steel mesh and/or steel fibres
- Non-magnetic
- Rustproof
- Alkali proof
- Requires no minimum amount of concrete cover
- Always positioned in compliance with codes
- Safer and easier to use than traditional reinforcement
- Saves time & hassle

APPROVALS / STANDARDS

- Complies with European Standard EN 14889-2:2006 Fibres for Concrete Parts 2 and carries CE marking
- ISO 9001 Quality Assured
- Complies with ASTM C 1116 Type III 4.1.3

Reference Documents

- European Standard EN 14889-2: 2006 Fibres for Concrete
- ASTM CIII6/C1116M Standard Specification for Fiber-Reinforced Concrete.
- ASTM C 1399 Average Residual Strength of Fibre Reinforced Concrete.
- ASTM C 1436 Standard Specification for Materials or Shotcrete.
- ASTM C 1609/C 1609M Standard Test Method for Flexural Performance of Fibre Reinforced Concrete (Using Beam With Third-Point Loading). Replaces ASTM C 1018.
- ASTM C 1550 Standard Test Method for Flexural Toughness of Fibre Reinforced Concrete (Using Centrally Loaded Round Panel).
- JCI-SF4 Method of Test for Flexural Strength and Flexural Toughness of Fibre Reinforced Concrete.

PRODUCT INFORMATION

Packaging	Sika® Fibermesh-650 S fibres are available in 1.0 kg degradable paper bags, (7 bags per box) , which are designed to be placed directly into the concrete mixer without opening. Sika® Fibermesh-650 S macro-synthetic fibres are also available in collated water soluble bundles/packs packaged in 10 kg cartons.
Shelf Life	24 months from date of production if stored properly in undamaged, unopened, original sealed packaging.
Storage Conditions	Store materials in a cool dry place. Do not store in direct sunlight.
Dimensions	Fibre Length: Graded
Melting Point	162°C (324°F)
Ignition Temperature	593°C (1100°F)

TECHNICAL INFORMATION

Specific Advice	**Safety:**	No special handling is required with Sika® Fibermesh-650 S fibres. Full Material Safety Data Sheets are available on request.
	Type:	Macro
	Absorption:	Nil
	Specific Gravity:	0.91
	Electrical Conductivity	Low
	Acid & Salt Resistance:	High
	Thermal Conductivity	Low
Tensile Strength	613 MPa	
Tensile Modulus of Elasticity	5400 MPa	
Resistance to Alkalinity	Alkali Proof	

APPLICATION INFORMATION

Recommended Dosage	The application rate for Sika® Fibermesh-650 S macro-synthetic fibres will vary depending on the application, mix design and toughness requirements of each particular project. Typically dosage will fall in the range of 3.0 to 8.0 kg per cubic metre. For specific performance and dosage recommendations, contact your local Sika representative.
Compatibility	Sika® Fibermesh-650 S fibres are compatible with all concrete admixtures and performance enhancing chemicals.

APPLICATION INSTRUCTIONS

Mixing
Sika® Fibermesh-650 S reinforcing is a mechanical, not a chemical process. Due to fibre efficiency, minor mix design modifications may be required depending on the application. Consult your Sika representative for recommendations. Sika® Fibermesh-650 S macro-synthetic fibre is added to the mixer before, during or after batching the other concrete materials. Mixing time of at least 5 minutes at mixing speed is required

to ensure uniform distribution of the fibres throughout the concrete.

Placing
Sika® Fibermesh-650 S reinforced concrete can be pumped, sprayed or placed using conventional equipment.

Finishing
Conventional techniques and equipment can be used when finishing Sika® Fibermesh-650 S fibre reinforced concrete.

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.

ECOLOGY, HEALTH AND SAFETY

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

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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