BUILDING TRUST

PRODUCT DATA SHEET

SikaFiber®-155

MACRO FIBER FOR CONCRETE AND SHOTCRETE

DESCRIPTION

SikaFiber®-155 is used for structural purposes in concrete, mortar and shotcrete. It is ideal for providing rock support in underground rock support in mines and tunnels.

USES

For most types of in-situ cast structural concrete to reduce the amount of steel reinforcement, distribute stresses, increase structural properties or increase abrasion and fire resistance:

- Ground bearing slabs
- Precast concrete elements
- Foundations
- Building and infrastructure structural components
- Marine/Coastal defence concrete
- Shotcreting applications
- Rock and ground stabilization

FEATURES

- Improves the ductility of concrete
- Transfers tensile stresses and bridges cracks in cementitious applications
- Decreases crack propensity due to constrained deformations induced by drying shrinkage and temperature gradients and allows to partially or fully substitute related mesh reinforcement
- Replace mesh in tunnel rock support
- Excellent resistance in alkaline and acidic environment
- Provides rust free reinforcing solutions
- Easy to dose with limited impact on workability
- Safe to handle
- No negative impact regarding machinery wear

PRODUCT INFORMATION

Composition	Polypropylene
Packaging	3 & 5 kg boxes Fibers wrapped in water soluble plastic pucks in boxes
Appearance and colour	Straight colourless embossed fibres
Shelf life	24 months from date of production
Storage conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from humidity and direct sunlight.

Density	~910 kg/m³	
Length	~55 mm	(EN 14889-2)
Melting point	160 °C to 170 °C	(ISO 11357-3)
Ignition temperature	~590 °C	(ISO 11357-3)
Cross section	Irregular	(EN 14889-2)
Diameter	~0.8 mm	(EN 14889-2)

TECHNICAL INFORMATION

Tensile strength	~550 N/mm²	(EN 14889-2)
Modulus of elasticity in tension	~4500 N/mm²	(EN 14889-2)

APPLICATION INFORMATION

Recommended dosage	4.0 – 9.0 kg/m³ Other dosages may also be used depending on the specific working conditions. Trial mixes should be made with job materials to determine the optimum dosage required for a specified job requirement.
Compatibility	Compatible with other Sika admixtures. Laboratory trials must be carried out before concreting on site, especially when using a new mix design. Please consult our Sika Technical Department.

BASIS OF PRODUCT DATA

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

IMPORTANT CONSIDERATIONS

- The addition of fibers to a concrete might decrease its consistency. This should not be compensated by adding water to the mix. The recommendation is to optimize the mix either by adapting the mix design or by adding a superplasticizer. The mechanical performance of fibers is influenced by the concrete mix design and cementitious materials used. In order to evaluate properly preliminary tests under practical conditions with regard to mixing, placing and curing are advisable.
- Partial or total replacement of steel reinforcement by fibres must be designed by an appropriately qualified Engineer. Contact Sika Technical Service for additional information.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

MIXING

Appropriate fiber dispersion can be achieved either by adding the fibers to the aggregate belt or by adding the fibers via a sufficient dosing equipment directly into the mixer or ready-mix truck to the already mixed concrete. While processing attention shall be paid that fibers do not separate or agglomerate (e.g. during discharge to mixer), regarding the latter one special care should be taken that fibers are added to zones with sufficient shear. Our recommendation is to continue mixing for minimum 90 - 120 seconds after the addition of fibers. Very high fiber dosages may require significantly higher mixing time in order to achieve sufficient fiber dispersion.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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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