SikaFiber® Force 650S
Macro-Synthetic Fiber

Description
SikaFiber® Force 650S is macro synthetic reinforcing fiber complying with ASTM – C 1116 and carries CE Mark, Type III and EN 14889-2: 2006 Polymer Fibers - Definitions, specifications and conformity. SikaFiber® Force 650S is specifically engineered for use as secondary reinforcement. SikaFiber® Force 650S is a 100% virgin copolymer fiber designed to provide a high performing reinforcement system for concrete. SikaFiber® Force 650S is specifically engineered and manufactured to reduce plastic and hardened concrete shrinkage, increase fatigue resistance and concrete toughness, and improve impact strength.

Applications
Due to its mechanical properties SikaFiber® Force 650S is recommended for use in following applications:

■ Industrial and Warehouse Floors
■ Residential and commercial Slab on grade
■ Driveways and side walks
■ Replacement for welded wire fabric (WWF)
■ Composite metal decks and parking structures
■ Septic tanks, manholes and burial vaults
■ Precast elements
■ Shotcrete applications

SikaFiber® Force 650S can be successfully used as a safe and simple alternative to WWF. SikaFiber® Force 650S does not corrode, and is alkali resistant. SikaFiber® Force 650S utilize the mixing activity to evenly disperse the fibers into the concrete. SikaFiber® Force 650S acts mechanically by reinforcing the concrete with a multi-dimensional fiber network. SikaFiber® Force 650S does not affect curing process chemically and does not absorb water.

Benefits
■ Reduces plastic shrinkage and plastic settlement cracking.
■ Provides multi-dimensional secondary reinforcement, alternate to welded wire fabric, light rebar and steel fibers.
■ Improves residual tensile strength and ductility of concrete.
■ Improves impact, shatter and abrasion resistance of concrete.
■ Enhances durability and toughness of concrete.

Typical Data
Material: Polypropylene blend
Length: Graded
Specific gravity: 0.91
E-Modulus: 5.4 GPa
Tensile Strength: 89 ksi (613 MPa)
Melt Point: 324°F (162°C)
Alkali/Acid resistance: Excellent
Electrical Conductivity: Low
Thermal Conductivity: Low

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.
Concrete

How to Use

Dosage

Standard recommended dosage rate of SikaFiber® Force 650S is between 4-10 lbs/cu. yd. of concrete or as required by specific mix design. Dosages outside the recommended dosage range can be used to meet project specific requirements. If this is the case, please contact your Sika representative for technical support.

Mixing

SikaFiber® Force 650S can be added directly to the concrete mixing system, during or after the batching of the ingredients and mixed at high speed for four to five minutes. Additional mixing does not adversely affect the distribution or overall performance of SikaFiber® Force 650S. The addition of SikaFiber® Force 650S at the recommended dosage rates to a given mix will decrease the slump; however, additional water should not be added. Only a water reducing admixture should be used to adjust concrete to the desired workability required for placement.

Application

The addition of SikaFiber® Force 650S at the normal recommended dosage rate usually does not require any mix design or application changes. A mid range or high range water reducer is recommended in concrete placements where improved workability and finishability are desired.

Tooling & Finishing

Fiber reinforced concrete can be finished by most finishing techniques. SikaFiber® Force 650S does not affect the finishing characteristics of concrete. SikaFiber® Force 650S can be used in power/hand troweled concrete, colored and broom finished concrete.

Packaging

SikaFiber® Force 650S is available in collated water soluble bundles/pucks packaged in 10 kg cartons.

Storage and Shelf Life

SikaFiber® Force 650S should be stored in a cool dry warehouse. Protect product from the rain and from direct sunlight.

If stored in dry conditions shelf life is 5 years.

All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s). Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at http://usa.sika.com/ or by calling 800-933-7452.

Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer’s sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

Quality Certification Numbers: Lyndhurst: FM 69711 (ISO 9000), FM 70421 (QS 9000), Marion: FM 69715, Kansas City: FM 69107, Santa Fe Springs: FM 69408

Keep container tightly closed • keep out of reach of children • not for internal consumption • for industrial use only • for professional use only

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product’s most current product data sheet, product label and safety data sheet which are available online at http://usa.sika.com/ or by calling Sika’s technical service department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current product data sheet, product label and safety data sheet prior to product use.