



PRODUCT DATA SHEET

SikaFiber® Force-650

Macro-Synthetic Fiber

PRODUCT DESCRIPTION

SikaFiber® Force-650 is macro synthetic reinforcing fiber complying with ASTM – C 1116, Type III. SikaFiber® Force-650 is specifically engineered for use as secondary reinforcement. SikaFiber® Force-650 is a 100 % virgin copolymer fiber designed to provide a high performing reinforcement system for concrete. SikaFiber® Force-650 is specifically engineered and manufactured to reduce plastic and hardened concrete shrinkage, increase fatigue resistance and concrete toughness, and improve impact strength. SikaFiber® Force-650 is UL certified and approved for usage in all D700, D800 and D900 series decks as an alternate to welded wire fabric at a dosage rate up to 5.0 pounds per cubic yard.

WHERE TO USE

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

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

PRODUCT INFORMATION

Packaging

SikaFiber® Force-650 is available in graded 38mm (1.5”) & 44mm (1.75”) lengths and various pack sizes in degradable bags. The fiber is available in pucks or loose.

Shelf Life

If stored in dry conditions shelf life is 5 years.

SikaFiber® Force-650 can be successfully used as a safe and simple alternative to WWF. SikaFiber® Force-650 does not corrode, and is alkali resistant. SikaFiber® Force-650 utilize the mixing activity to evenly disperse the fibers into the concrete. SikaFiber® Force-650 acts mechanically by reinforcing the concrete with a multi-dimensional fiber network. SikaFiber® Force-650 does not affect curing process chemically and SikaFiber® Force-650 does not absorb water. Do not specify SikaFiber® Force-650 for use on slabs as a replacement for any moment or structural steel.

CHARACTERISTICS / ADVANTAGES

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

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| Storage Conditions | SikaFiber® Force-650 should be stored in a dry warehouse. Protect product from the rain. |
| Density | 0.91 |
| Dimensions | Length: Graded 38mm (1.5") & 44mm (1.75") Diameter: Graded 0.42 & 0.45mm. Aspect Ratio: Varies from 76 to 105 |
| Melting Point | 324 °F (162 °C) |

TECHNICAL INFORMATION

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|---|------------------------|
| Modulus of Elasticity in Tension | 725–1015 ksi (5–7 GPa) |
| Resistance to Alkalinity | Excellent |

APPLICATION INFORMATION

Recommended Dosage Standard recommended dosage rate of SikaFiber® Force-650 is between 3–7.5 lbs/cu. yd. (1.8–4.45 kg/m³) 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-650 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-650. The addition of SikaFiber® Force-650 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-650 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-650 does not affect the finishing characteristics of concrete. SikaFiber® Force-650 can be used in power/hand troweled concrete, colored and broom finished concrete.

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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Product Data Sheet

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