

SikaFiber® Force 650

Macro-Synthetic Fiber

Concrete

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.

Applications 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

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.

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 strength of concrete.
- Improves impact, shatter and abrasion resistance of concrete.
- Enhances durability and toughness of concrete.

Typical Data	Material:	Polypropylene blend
	Length:	Graded (1.5" & 1.75")
	Specific gravity:	0.91
	E-Modulus:	725 - 1015 ksi (5 - 7 GPa)
	Tensile Strength:	89 ksi (613 MPa) average
	Melt Point:	324°F (162°C)
	Alkali/Acid resistance:	Excellent
	Electrical 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.



Sika®

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How to Use

Dosage	Standard recommended dosage rate of SikaFiber® Force 650 is between 3-7.5 lbs/cu. yd. (1.8-4.45 kg/m ³) 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.
Packaging	SikaFiber® Force 650 is available in graded (1.5" & 1.75") lengths and various pack sizes in degradable bags. The fiber is available in pucks or loose.
Storage and Shelf Life	SikaFiber® Force 650 should be stored in a dry warehouse. Protect product from the rain. If stored in dry conditions shelf life is 5 years.

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY • FOR PROFESSIONAL USE ONLY

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



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