

PRODUCT DATA SHEET

Sikacrete[®]-930 UHPC

ONE-COMPONENT, STEEL FIBER-REINFORCED, SELF-CONSOLIDATING ULTRA HIGH-PERFORMANCE CONCRETE (UHPC) WITH DUST REDUCTION TECHNOLOGY

PRODUCT DESCRIPTION

Sikacrete[®]-930 UHPC is a fiber-reinforced, ultra-high performance concrete (UHPC) containing Portland cement, finely graded sand, steel fibers and other carefully selected components.

Sikacrete[®]-930 UHPC is gray in color and is packaged in 65 LB bags and 2,000 LB bulk bags. Sikacrete[®]-930 UHPC is only mixed with potable water and steel fibers; no additional chemical admixtures are required. Sikafiber 6513 UHPC fibers are packaged in 44 LB (20KG) bags.

USES

- Superstructure bridge connections
- Substructure bridge connections
- Header joints
- Grouted fasteners
- Shear keys
- Form & pour applications where high strength and low permeability are required

CHARACTERISTICS / ADVANTAGES

- Ultra-high compressive, flexural, and tensile strengths allowing significant reduction of concrete element sections, concrete volumes and reinforcing steel, resulting in a lightweight and slender structural element profile
- Possesses strain-hardening properties, a characteristic unique to UHPC
- Superior impact and abrasion resistant characteristics
- Superior resistance to cracking caused by shrinkage, thermal stresses and other conditions
- Very high energy absorbing capacity (toughness)
- Ultra-compact material resulting in very low porosity and permeability
- Superior resistance to freeze-thaw cycling and salt-scaling
- Superior resistance to sulfate attack
- Excellent bond to parent concrete without requiring a bonding agent
- Self-consolidating material
- Designed with natural normal-density non-reactive fine aggregate to eliminate the potential alkali-aggregate reactivity
- All Sika products are manufactured using ISO 9001:2015 Certified Processes

PRODUCT INFORMATION

Packaging	65 lb. (29.5 kg) bag 2,000 lb. (908 kg) bulk bag
Shelf Life	12 months from date of production if stored in original, unopened and undamaged sealed packaging (65 lb bags) 6 months for bulk bags
Storage Conditions	Store dry between 40 °F (5 °C) and 85 °F (30 °C) Protect from moisture. If damp, discard material
Appearance / Color	Gray Powder
Density	150 lbs/cf

TECHNICAL INFORMATION

Compressive Strength	Age	Strength	ASTM C 39 (3"x6" cylinders) Air cure
	1 day	> 10,000 psi	
	7 days	> 14,000 psi	
	28 days	>22,000 psi	
Modulus of Elasticity in Compression	Age	Compressive Modulus	ASTM C 469 (4"x8" cylinders) Air cure
	28 days	7,040,000 psi	
Tensile Strength	Age	Tensile Strength	ASTM C 307 (1"x3" briquette) Air cure
	28 days	1,200 psi	
Splitting tensile strength	Age	Tensile Strength	ASTM C 496 (4"x8" cylinders) Air cure
	28 days	2,500 psi	
Slant Shear Strength	Age	Shear Strength	ASTM C 882 Air cure
	1 day	3,200 psi	
	7 days	3,500 psi	
Shrinkage	Age	Length Change	ASTM C 157 (1"x1"x11" prisms) Air cure
	28 days	- 0.031%	
Expansion	Age	Length Change	ASTM C 157 (1"x1"x11" prisms) Water cure
	28 days	+ 0.006%	
Chloride Ion Ingress	Age	Permeability	ASTM C 1202 Air cure
	28 days	131 Coulombs	
Resistance to Alkalinity	Age	Length Change	ASTM C 1260 (1"x1"x11" prisms)
	14 days	+ 0,018%	
Freeze-Thaw Stability	Cycles	RDM	ASTM C 666 (Proc A) (3"x3"x11" prisms) Air cure for 14 days
	300	99.4%	
Salt resistance	Cycles	Mass Loss	ASTM C 672 Air cure for 28 days
	25	0 lbs / sf	
	50	0 lbs / sf	

APPLICATION INFORMATION

Substrates	Concrete
Coverage	Four 65 lb bags of Sikacrete®-930 UHPC mixed with 1/2 bag of Sikafiber®-6513 (9.9% water) yields approximately 2.0 cubic feet
Flowability	9 in (spread) ASTM C 1437 modified per ASTM C 1856
Set Time	6-8 hrs

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

- Surface must be clean and sound. Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials from the area to be repaired.
- Be sure repair area is not less than 1" (25 mm) deep. Preparation work should be done by appropriate means. Obtain an exposed aggregate surface with a minimum surface profile of $\pm 1/8"$ (3 mm) (ICR CSP-7-8) on clean, sound concrete.
- Substrate should be Saturated Surface Dry (SSD) with clean water prior to application. No standing water should remain during application.

MIXING

Materials and substrate temperatures should be between 40 °F (5°C) and 85 °F (30°C). In cold weather, hot water may be used to increase the mix temperature and avoid lengthy set times. Do not place Sikacrete®-930 UHPC when the ambient temperature is below 40°F (5 °C). Refer to ACI 306, "Guide to Cold Weather Concreting".

Sikacrete®-930 UHPC requires robust equipment for proper mixing. Single bags can be hand-mixed using a drill. A Collomix Xo-55 dual drill is effective in mixing. A suitable-sized mixing pail should be used. 0.77 gallons of

potable water per 65 lb bag should be added to the mixing container. The powder should slowly be added to the water while continuously mixing. Mix for 7-8 minutes to achieve a uniform consistency. Add the required steel fibers and mix for another 2-3 minutes until homogeneously mixed. For larger batches, forced-action, vertical or horizontal shaft mortar mixers can be used. For bulk bag mixing, please contact your local Sika representative.

CURING TREATMENT

While the performance data listed on this PDS are for air-cured specimens, moist curing will provide the best results. Alternatively, an ASTM C 309 or C 1315-compliant curing compound can be applied once the applied material reaches final set.

LEGAL DISCLAIMER

- 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 product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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