

Sikacrete® 211 SCC Plus

One-component, cementitious, polymer-modified, self consolidating concrete mix with an integral migrating corrosion inhibitor

Description	Sikacrete® 211 SCC Plus is a one-component, self consolidating concrete containing factory blended coarse aggregate. This self consolidating concrete bag is silica fume and polymer modified and also contains a migrating corrosion inhibitor.
Where to Use	<ul style="list-style-type: none"> ■ Full depth repairs. ■ On grade, above and below grade on concrete. ■ On horizontal surfaces. ■ Vertical and overhead surfaces when formed and pumped or poured. ■ As a structural repair material for parking facilities, industrial plants, walkways, bridges, tunnels, dams, and balconies. ■ Filler for voids and cavities.
Advantages	<ul style="list-style-type: none"> ■ Self consolidating concrete - Excellent placement characteristics. ■ Polymer-modified. ■ Integral Penetrating Corrosion Inhibitor. ■ Silica Fume Enhanced. ■ Prepackaged coarse aggregate. Eliminates the need to extend material in the field. Eliminates the risk of reactive aggregate. ■ Can be pumped or poured into forms and gets excellent consolidation without vibrating.
Coverage	Approximately 0.50 ft. ³ /bag. Actual results on site may vary.
Packaging	65 lb. bag.

Construction

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)

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

Shelf Life	1 year in original, unopened packaging.	
Storage Conditions	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F (18°-24°C) before using.	
Initial Spread	SCC, 27-33 Inches approx.	
Spread at 30 min.	> 15 inches	
Application Time	60 minutes	
Flexural Strength (ASTM C-78)	1 day	500 psi (3.4 MPa)
	7 days	750 psi (5.2 MPa)
	28 days	1,000 psi (6.9 MPa)
Splitting Tensile Strength (ASTM C-496)	7 days	750 psi (5.1 MPa)
	28 days	1,000 psi (6.9 MPa)
Slant Shear Bond Strength* (ASTM C-882 modified)	1 day	1,000 psi (6.9 MPa)
	7 days	1,500 psi (10.3 MPa)
	28 days	2,500 psi (17.2 MPa)
Direct Tensile Bond (ACI 503)	1 day	250 psi (1.7 MPa)
	7 days	300 psi (2.1 MPa)
Compressive Strength (ASTM C-39)	1 day	2,000 psi (13.8 MPa)
	7 days	5,500 psi (37.9 MPa)
	28 days	6,500 psi (44.8 MPa)
Shrinkage (ASTM C-157)	28 days	<0.05%
Chloride ion permeability (ASTM C-1202)	28 days	<650 Coloumbs



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Freeze Thaw Resistance (ASTM C-666)	300 cycles	> 99%
Scaling Resistance (ASTM C-672)	50 cycles	2
Sulfate Resistance (ASTM C-1012)		
Length change after 6 months		0.006

* Mortar scrubbed into substrate.

How to Use

Surface Preparation

Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1 in. in depth. Preparation work should be done by high pressure water blast, scabber, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of $\pm 1/8$ in. (CSP-7-8). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.

Reinforcing Steel: Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water after mechanical cleaning. For priming and protection of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Technical Data Sheet).

Mixing

Start mixing with 5.5 pints of water. An additional 0.5 pint can be added if needed. Do not over water as excess water will cause segregation. Add Sikacrete® 211 while continuing to mix. Mix to a uniform consistency, maximum 3 minutes. Mechanically mix with a low-speed drill (400-600 rpm) and paddle or in appropriate-size mortar mixer or concrete mixer.

Application

Pre-wet surface to SSD (Saturated Surface Dry). Ensure good intimate contact with the substrate is achieved. To accomplish this, material should be scrubbed into the substrate or other suitable means should be employed such as vibration of the material or pumping under pressure. Vibrate form while pouring or pumping. Pump with a variable pressure pump. Continue pumping until a 3 to 5 psi increase in normal line pressure is evident then STOP pumping. Form should not deflect. Vent to be capped when steady flow is evident, and forms stripped when appropriate.

Tooling and finishing

As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water based* compatible curing compound. Curing compounds adversely affect the adhesion of following layers of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. Protect newly applied material from direct sunlight, wind, rain and frost.

*Pretesting of curing compound is recommended.

Limitations

- Application thickness: Minimum 1 in. (25 mm); Maximum 8 in. (200 mm). Thicker applications have been done successfully. Please consult Sika Technical Service.
- Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts, with an appropriate epoxy such as Sikadur® 32 Hi-Mod.

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