

SikaTop® 123 PLUS

Two-component, polymer-modified, cementitious, non-sag mortar plus Sika FerroGard® 901 penetrating corrosion inhibitor

Description	SikaTop® 123 PLUS is a two-component, polymer-modified, Portland cement-based, fast-setting, non-sag mortar. It is a high performance repair mortar for vertical and overhead surfaces and offers the additional benefit of Sika FerroGard® 901, a penetrating corrosion inhibitor included in its formulation.
Where to Use	<ul style="list-style-type: none"> ■ On grade, above and below grade on concrete and mortar. ■ On vertical and overhead surfaces. ■ As a structural repair material for parking structures, industrial plants, walkways, bridges, tunnels, dams and ramps. ■ Approved for repairs over cathodic protection systems
Advantages	<ul style="list-style-type: none"> ■ Extremely low shrinkage proven by four industry standard test methods. ■ High compressive and flexural strengths. ■ Increased freeze/thaw durability and resistance to deicing salts. ■ Compatible with coefficient of thermal expansion of concrete - Passes ASTM C 884. ■ Increased density - improved carbon dioxide resistance (carbonation) without adversely affecting water vapor transmission (not a vapor barrier). ■ Enhanced with Sika FerroGard® 901, a penetrating corrosion inhibitor - reduces corrosion even in the adjacent concrete. ■ USDA certifiable for incidental food contact ■ ANSI/NSF Standard 61 potable water approved complaint.
Coverage	0.39 cu. ft./ unit.
Packaging	Component 'A' - 1-gal. plastic jug; 4/carton. Component 'B' - 44-lb. multi-wall bag.

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	One year in original, unopened packaging.		
Storage Conditions	Store dry at 40°-95°F. Condition material to 65°-75°F before using. Protect Component 'A' from freezing. If frozen, discard.		
Color	Concrete gray when mixed.		
Mixing Ratio	Plant-proportioned kit, mix entire unit.		
Application Time	Approximately 15 minutes.		
Finishing Time	20-60 minutes		
Note:	All times start after adding Component 'B' to Component 'A' and are highly affected by temperature, relative humidity, substrate temperature, wind, sun and other job site conditions.		
Density (wet mix)	ASTM C 138		132 lbs./ft³ (2.2 kg./l)
Flexural Strength	ASTM C 293	28 days	1,500 psi
Split Tensile	ASTM C 496	28 days	900 psi
Bond Strength	ASTM C 882 (modified)	28 days	2,000 psi
Compressive Strength	ASTM C 109	1 day	3,000 psi
		7 days	4,000 psi
		28 days	6,000 psi
Shrinkage	ASTM C 157 (mod. ICRI 320.3R)		
Specimen Size 1x1x11-1/4"		28 days	0.05%
Specimen Size 3x3x11-1/4"		28 days	0.038%
Ring Test (days)	ASTM C 1581	>70 days	
Ring Test - Average Max Strain	ASTM C 1581	-36 µstrain	
Ring Test - Average Stress Strain	ASTM C 1581	4.92 psi/day	
Ring Test - Potential for Cracking	ASTM C 1581	Low	
Baenzinger Block		90 days	No cracking
Freeze/Thaw Durability (300 cycles)	ASTM C 666		98%
Cl Permeability (coul)	ASTM C 1202		<500 Coulombs.
Direct Bond Strength	ASTM C 1583	28 days	500 psi (substrate failure)
Modulus of Elasticity	ASTM C 531		2.94 x 10⁶ psi
Initial Set Time (min)	ASTM C 266		20-40
Final Set Time (min)	ASTM C 266		<75



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/](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 INSTRUCTIONS FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.

How to Use

Substrates	Concrete, mortar, and masonry products.
Surface Preparation	<p>Remove all deteriorated concrete, dirt, oil, grease and all bond inhibiting materials from surface. Be sure repair area is not less than 1/8 inch in depth. Preparation work should be done by high pressure water blast, scabblor, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of $\pm 1/16$ inch (CSP-5). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.</p> <p>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 of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Product Data Sheet).</p> <p>Priming Concrete Substrate: Prime the prepared substrate with a brush or sprayed applied coat of Sika® Armatec® 110 EpoCem (consult Product Data Sheet). Alternately, a scrub coat of SikaTop® 123 PLUS can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.</p>
Mixing	Pour Component 'A' into mixing container. Add Component 'B' while mixing continuously. Mix mechanically with a low-speed drill (400 - 600 rpm) and mixing paddle or mortar mixer. Mix to a uniform consistency, maximum 3 minutes. Manual mixing can be tolerated only for less than a full unit. Thorough mixing and proper proportioning of the two components is necessary.
Application	SikaTop® 123 PLUS must be scrubbed into the substrate, filling all pores and voids. Force material against edge of repair, working toward center. After filling repair, consolidate, then screed. Material may be applied in multiple lifts. The thickness of each lift, not to be less than 1/8 inch minimum or more than 1.5 inches maximum. Where multiple lifts are required score top surface of each lift to produce a roughened surface for next lift. Allow preceding lift to reach initial set, 30 minutes minimum, before applying fresh material. Saturate surface of the lift with clean water. Scrub fresh mortar into preceding lift. Allow mortar or concrete to set to desired stiffness, then finish with wood or sponge float for a smooth surface.
Tooling & Finishing	<p>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 (ASTM C 309 complaint). Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. If necessary protect newly applied material from direct sunlight, wind, rain and frost.</p> <p>*Pretesting of curing compound is recommended.</p>
Limitations	<ul style="list-style-type: none"> ■ Application thickness: Minimum 1/8 inch (3 mm). Maximum in one lift - 1.5 in. (38 mm). ■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application. ■ Do not use solvent-based curing compound. ■ Size, shape and depth of repair must be carefully considered and consistent with practices recommended by ACI or ICRI. For additional information, contact Technical Service. ■ For additional information on substrate preparation, refer to ICRI Guideline No. 310.2R re: Polymer Overlays and Concrete Repair. ■ If aggressive means of substrate preparation is employed, substrate strength should be tested in accordance with ACI 503 Appendix A prior to the repair 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 etc. with an appropriate epoxy such as Sikadur® 32, Hi-Mod.

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Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 800-933-7452
Fax: 201-933-6225

Sika Canada Inc.
601 Delmar Avenue
Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-3087

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Querétaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537



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