

SikaTop® 122 PLUS

Two-component, polymer-modified, cementitious, trowel-grade mortar plus FerroGard 901 penetrating corrosion inhibitor

Description	SikaTop 122 PLUS is a two-component, polymer-modified, portland-cement, fast-setting, trowel-grade mortar. It is a high performance repair mortar for horizontal and vertical surfaces and offers the additional benefit of FerroGard 901, a penetrating corrosion inhibitor.
Where to Use	<ul style="list-style-type: none"> ■ On grade, above, and below grade on concrete and mortar. ■ On horizontal surfaces. ■ As a structural repair material for parking structures, industrial plants, walkways, bridges, tunnels, dams, and ramps. ■ To level concrete surfaces. ■ As an overlay system for topping/resurfacing concrete. ■ Overlay in cathodic protection systems.
Advantages	<ul style="list-style-type: none"> ■ High compressive and flexural strengths. ■ High early strengths. Opens to traffic fast: foot in 4-6 hours, pneumatic tire in 8-12 hours. ■ High abrasion resistance. ■ Increased freeze/thaw durability and resistance to deicing salts. ■ Compatible with coefficient of thermal expansion of concrete - Passes ASTM C-884 (modified). ■ Increased density - improved carbon dioxide resistance (carbonation) without adversely affecting water vapor transmission (not a vapor barrier). ■ Enhanced with FerroGard 901, a penetrating corrosion inhibitor - reduces corrosion even in the adjacent concrete. ■ Not flammable, non-toxic. ■ Conforms to ECA/USPHS standards for surface contact with potable water. ■ USDA approved for food industry. ■ ANSI/NSF Standard 61 potable water approved.
Yield	0.51 cu. ft./ unit mortar; 0.75 cu. ft./unit concrete; (SikaTop 122 + 42 lbs. 3/8 pea gravel)
Packaging	Component 'A' - 1-gal. plastic jug; 4/carton. Component 'B' - 61.5-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 30 minutes.
Finishing Time	50-120 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)	136 lbs./cu. ft. (2.18 kg./l)
Flexural Strength (ASTM C-293) 28 days	2,000 psi (13.8 MPa)
Splitting Tensile Strength (ASTM C-496) 28 days	750 psi (5.2 MPa)
Bond Strength* (ASTM C-882 modified) 28 days	2,200 psi (15.2 MPa)
Compressive Strength (ASTM C-109)	
1 day	3,000 psi (20.7 MPa)
7 days	5,500 psi (37.9 MPa)
28 days	7,000 psi (48.3 MPa)
Permeability (AASHTO T-277) 28 days	Approx. 500 Coulombs. Electrical resistivity (ohm-cm) 28,000
Freeze/Thaw Resistance (ASTM C-666)	300 cycles 98%
Corrosion Testing for FerroGard 901	
Cracked Beam Corrosion Tests:	
Reduced corrosion rates 63% versus control specimens	
ASTM G109 modified after 400 days	

* Mortar scrubbed into substrate.

How to Use

Substrate Concrete, mortar, and masonry products.

Surface Preparation Concrete/Mortar: 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 ±1/16 inch (CSP-5). 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 of reinforcing steel use Sika Armatec 110 EpoCem (consult Technical Data Sheet).

Priming	Concrete Substrate: Prime the prepared substrate with a brush or sprayed applied coat of Sika Armatec 110 EpoCem (consult Technical Data Sheet). Alternately, a scrub coat of SikaTop 122 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.									
Mixing	Pour approximately 7/8 of Component 'A' into the mixing container. Add Component 'B' (powder) while mixing continuously. Mix mechanically with a low-speed drill (400- 600 rpm) and mixing paddle or mortar mixer. Add remaining Component 'A' (liquid) to mix if a more loose consistency is desired. Mix to a uniform consistency, maximum 3 minutes. Thorough mixing and proper proportioning of the two components is necessary. For SikaTop 122 PLUS concrete: Pour all of Component 'A' into mixing container. Add all of Component 'B' while mixing, then introduce 3/8 inch coarse aggregate at desired quantity. Mix to uniform consistency, maximum 3 minutes. Addition rate is 42 lbs. per bag (approx. 3.0 to 3.5 gal. by loose volume). The aggregate must be non-reactive (reference ASTM C1260, C227 and C289), clean, well-graded, saturated surface dry, have low absorption and high density, and comply with ASTM C 33 size number 8 per Table 2. Note: Variances in the quality of the aggregate will affect the physical properties of SikaTop 122 PLUS. The yield is increased to 0.75 cu. ft./unit with the addition of the aggregate (42 lbs.). Do not use limestone aggregate.									
Application & Finish	SikaTop 122 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. Allow mortar or concrete to set to desired stiffness, then finish with wood or sponge float for a smooth surface, or broom or burlap-drag for a rough finish.									
Curing	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	<table border="1"> <thead> <tr> <th>Application thickness:</th> <th>Min.</th> <th>Max. in one lift</th> </tr> </thead> <tbody> <tr> <td>Neat</td> <td>1/8 inch (3 mm)</td> <td>1 inch (25 mm)</td> </tr> <tr> <td>Extended</td> <td>1 inch (25 mm)</td> <td>4 inches (100 mm)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application. ■ Addition of coarse aggregates may result in variations of the physical properties of the mortar. ■ Do not use solvent-based curing compound. ■ Size, shape and depth of repair must be carefully considered and consistent with practices recommended by ACI. For additional information, contact Technical Service. ■ For additional information on substrate preparation, refer to ICRI Guideline No.03732 Coatings, and Polymer Overlays. ■ 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 Hi-Mod 32. 	Application thickness:	Min.	Max. in one lift	Neat	1/8 inch (3 mm)	1 inch (25 mm)	Extended	1 inch (25 mm)	4 inches (100 mm)
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Caution	<p>Component 'A' - Irritant - May cause skin/eye/respiratory irritation. Avoid breathing vapors. Use with adequate ventilation. Avoid skin and eye contact. Safety goggles and rubber gloves are recommended.</p> <p>Component 'B' - Irritant; suspect carcinogen - Contains portland cement and sand (crystalline silica). Skin and eye irritant. Avoid contact. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC lists crystalline silica as having sufficient evidence of carcinogenicity in laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety goggles and chemical resistant gloves is recommended. If PELs are exceeded, an appropriate, NIOSH approved respirator is required. Remove contaminated clothing.</p>									
First Aid	In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes, and contact a physician. For respiratory problems, remove person to fresh air.									
Clean Up	In case of spillage, scoop or vacuum into appropriate container, and dispose of in accordance with current, applicable local, state and federal regulations. Keep container tightly closed and in an upright position to prevent spillage and leakage. Mixed components: Uncured material can be removed with water. Cured material can only be removed mechanically.									

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