

PRODUCT DATA SHEET

SikaTop[®]-122 Plus

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

PRODUCT DESCRIPTION

SikaTop[®]-122 Plus is a two-component, polymer-modified, portland cement based, fast-setting, trowel-grade mortar. It is a high-performance repair mortar for horizontal and vertical surfaces and offers the additional benefit of Sika FerroGard[®] 901, a penetrating corrosion inhibitor.

USES

- 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, ramps, floods, etc.
- To level concrete surfaces.
- As an overlay system for topping/resurfacing concrete.

CHARACTERISTICS / ADVANTAGES

- Extremely low shrinkage **proven by four industry standard test methods**
- High compressive and flexural strengths
- High abrasion resistance
- 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)
- Sika FerroGard[®] 901, a penetrating corrosion inhibitor - reduces corrosion even in the adjacent concrete

APPROVALS / STANDARDS

- USDA certifiable for the food industry
- ANSI/NSF Standard 61 potable water compliant
- Tested per ICRI guideline for inorganic repair material data sheet protocol guideline n°320.3R

PRODUCT INFORMATION

Packaging	Component A 1 gal (3.78 L) jug 4/carton	Component B 61.5 lb (28.9 kg) bag
Appearance / Color	Concrete gray when mixed	
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging	
Storage Conditions	Store dry at 40–95 °F (4–35 °C) Protect Component A from freezing. If frozen, discard.	

Protect Component B from moisture. If damp, discard.

Density	136 lbs/ft ³ (2.18 kg/L)	(ASTM C-138)
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TECHNICAL INFORMATION

Compressive Strength	1 day	2,500 psi (17.2 MPa)	(ASTM C-109) 73 °F (23 °C) 50 % R.H.
	7 days	5,300 psi (36.5 MPa)	
	28 days	7,000 psi (48.3 MPa)	

Modulus of Elasticity in Compression	28 days	3.0x10 ⁶ psi	(ASTM C-469) 73 °F (23 °C) 50 % R.H.
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Flexural Strength	28 days	1,500 psi (10.3 MPa)	(ASTM C-293) 73 °F (23 °C) 50 % R.H.
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Splitting tensile strength	28 days	500 psi (3.4 MPa)	(ASTM C-496) 73 °F (23 °C) 50 % R.H.
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Tensile Strength	28 days	2,000 psi (13.8 MPa)	(ASTM C-882 modified)*
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* Mortar scrubbed into substrate at 73 °F (23 °C) and 50 % R.H.

Pull-Out Resistance	7 days	>300 psi (2.1 MPa)	(ASTM C-1583) 73 °F (23 °C) 50 % R.H.
	28 days	400 psi (2.8 MPa)	

Shrinkage	28 days	1"x1"x11-1/4" specimen	< 0.05 %	(ASTM C-157 modified (mod. ICRI 320.3R)) 73 °F (23 °C) 50 % R.H.
		3"x3"x11-1/4" specimen	< 0.021 %	

Ring test	Duration	>70 days	(ASTM C-1581) 73 °F (23 °C) 50 % R.H.
	Average Max Strain	-9 µstrain	
	Average Stress Strain	0.49 psi/day	
	Potential for Cracking	Low	

Baenziger block	90 days	No cracking
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Freeze-Thaw Stability	300 cycles	98 %	(ASTM C-666)
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Rapid Chloride Permeability	28 days	< 500 C	(ASTM C-1202 AASHOT T-277)
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APPLICATION INFORMATION

Mixing Ratio	Plant-proportioned kit, mix entire unit.	
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Fresh mortar density	136 lbs/ft ³ (2.18 kg/l)	(ASTM C-138)
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Coverage	Neat	0.51 ft ³ (0.02 m ³) per unit
	Extended with 42 lb (19 kg) of 3/8" (9.5 mm) gravel	0.75 ft ³ (0.03 m ³) per unit

(Coverage figures do not include allowance for surface profile and porosity or material waste)

Layer Thickness		Min.	Max. in one lift
		Neat	1/8" (3.2 mm)
	Extended	1" (25.4 mm)	4" (101.6 mm)
Product Temperature	65–75 °F (18–24 °C)		
Ambient Air Temperature	> 45 °F (7 °C)		
Substrate Temperature	> 45 °F (7 °C)		
Set Time	35–70 minutes		(ASTM C-266)
Final set time	> 90 minutes		(ASTM C 266) 73° F (23° C), 50% R.H.
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.

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.

LIMITATIONS

- 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 Coatings, 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.
- Refer to Sika® Antisol®-250 W product data sheet for use.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

- Concrete, mortar, and masonry products 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 1/8" (3.2mm) in depth.
- Preparation work should be done by high pressure water blast, scabblor or other appropriate mechanical means to obtain an exposed aggregate surface profile of ±1/16"-1/8" (1.6-3.2 mm) (CSP-5-6).
- To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test.
- Saw cutting of edges is preferred and a dovetail is recommended.
- Substrate should be Saturated Surface Dry (SSD) with clean water prior to application. No standing water should remain during application.

PRIMING

- 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 PDS).
- Concrete Substrate:** Prime the prepared substrate with a brush or sprayed applied coat of Sika® Armatec® 110 EpoCem (consult PDS). 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.
 - Refer to ACI 306 Guidelines when there is a need to place this product in cold & hot temperatures. Thinner application will be more sensitive to the temperature
- Moist cure with wet burlap and polyethylene, a fine mist of water or a water Sika® Antisol®-250 W* compatible curing compound meeting ASTM C-309.
 - Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings.
 - Moist curing should commence immediately after finishing.
 - Protect freshly applied mortar from direct sunlight, wind, rain and frost.
 - To prevent from freezing, cover with insulating material.

* Pretesting of curing compound is recommended.

OTHER RESTRICTIONS

See Legal Disclaimer.

EXTENSION WITH AGGREGATES

- For applications greater than 1" (25.4 mm) in depth, add 3/8" (9.5 mm) coarse aggregate.
- Pour all of Component 'A' into mixing container.
- Add all of Component 'B' while mixing, then introduce 3/8" (9.5 mm) coarse aggregate at desired quantity.
- Mix to uniform consistency, maximum 3 minutes.
- The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, Saturated Surface Dry (SSD), have low absorption and high density, and comply with ASTM C-33 size number 8 per Table 2.
- Do not use limestone aggregate.
- Variances in the quality of the aggregate will affect the physical properties of SikaTop®-122 Plus and may result in different strengths.
- The addition rate is 42 lb (19 kg) of aggregate per bag. It is approximately 3.0-4.5 gallons (11.3-17.0 L) by loose volume of aggregate.

APPLICATION

- 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 TREATMENT

- As per ACI recommendations for Portland cement concrete, curing is required.

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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Product Data Sheet

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