**SikaTop® 122 PLUS**

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

**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.

**Where to Use**

- 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.

**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.
- USDA certifiable for the food industry.
- ANSI/NSF Standard 61 potable water compliant.

**Coverage**

0.51 cu. ft./unit mortar; 0.75 cu. ft./unit concrete; (mixed mortar + 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.)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelf Life</td>
<td>One year in original, unopened packaging.</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>Store dry at 40°-95°F. Condition material to 65°-75°F before using. Protect Component 'A' from freezing. If frozen, discard.</td>
</tr>
<tr>
<td>Color</td>
<td>Concrete gray when mixed.</td>
</tr>
<tr>
<td>Mixing Ratio</td>
<td>Plant-proportioned kit, mix entire unit.</td>
</tr>
<tr>
<td>Application Time</td>
<td>Approximately 30 minutes.</td>
</tr>
<tr>
<td>Finishing Time</td>
<td>50-120 minutes</td>
</tr>
</tbody>
</table>

**Density (wet mix)**

ASTM C 138 136 lbs./ft³ (2.18 kg./l)

**Flexural Strength**

ASTM C 293 28 days 1,500 psi

**Split Tensile**

ASTM C 496 28 days 500 psi

**Bond Strength**

ASTM C 882 (modified) 28 days 2,000 psi

**Compressive Strength**

ASTM C 109

1 day 2,500 psi
7 days 5,300 psi
28 days 7,000 psi

**Shrinkage**

ASTM C 157 (mod. ICRI 320.3R)

<table>
<thead>
<tr>
<th>Specimen Size</th>
<th>1&quot;x1&quot;x11-1/4&quot;</th>
<th>28 days</th>
<th>&lt;0.05%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Size</td>
<td>3&quot;x3&quot;x11-1/4&quot;</td>
<td>28 days</td>
<td>&lt;0.021%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ring Test (days)</th>
<th>ASTM C 1581</th>
<th>&gt;70 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring Test - Average Max Strain</td>
<td>ASTM C 1581</td>
<td>-9 ūstrain</td>
</tr>
<tr>
<td>Ring Test - Average Stress Strain</td>
<td>ASTM C 1581</td>
<td>0.49 psi/day</td>
</tr>
<tr>
<td>Ring Test - Potential for Cracking</td>
<td>ASTM C 1581</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baenzinger Block</th>
<th>ASTM C 666</th>
<th>98%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze/Thaw Durability (300 cycles)</td>
<td>ASTM C 1202</td>
<td>&lt;500 Coulombs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Bond Strength</th>
<th>ASTM C 1583</th>
<th>7 days</th>
<th>400 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>28 days</td>
<td>&gt;300 psi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modulus of Elasticity</th>
<th>ASTM C 531</th>
<th>3.00x10⁶ psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Set Time (min)</td>
<td>ASTM C 266</td>
<td>40-70</td>
</tr>
</tbody>
</table>
How to Use
Substrates
Concrete, mortar, and masonry products.

Surface Preparation
Remove all deteriorated concrete, dirt, oil, grease and all bond inhibiting materials from surface. Be sure repair area is not less than 1/8 inch in depth. Preparation work should be done by high pressure water blast, scabbler, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of ±1/16 inch (CSP-6); ±1/8 inch (CSP-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 pretesting of reinforcing steel use Sikadur® Armatec® 110 EpoCem (Consult Product Data Sheet).

Priming Concrete Substrate:
Prime the prepared substrate with a brush or sprayed applied coat of Sikadur® Armatec® 110 EpoCem (consult Product Data Sheet). Alternatively, a scrub coat of SikaTop® 122 PLUS can be applied prior to placement of the mortar. The repair mortar has to be exposed 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 C 1260, C 227 and C 289), 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
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.

Tooling & 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 (ASTM C 309 compliant). Curing compounds adversely affect the adhesion of following layers of mortar, leveling mortars 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.

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/ 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.

LIMITATIONS

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LIMITATIONS

Limitations

Application thickness:

<table>
<thead>
<tr>
<th></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>

- 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 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.

Visit our website at usa.sika.com

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