



ZRC® Cold Galvanizing Compound

The original Cold Galvanizing Compound! Providing superior zinc coating protection for over 50 years!

Enjoy the following great benefits with ZRC Cold Galvanizing Compound:

- 95% zinc in the dry film using only Type III "ultra pure" ASTM-D-520 zinc
- Recognized under the Component Program of Underwriters Laboratories, Inc. as equivalent to hot-dip galvanizing
- Meets and exceeds Fed. Spec. DOD-P-21035A (Galvanizing Repair Spec); MIL-P-26915A (USAF Zinc Dust Primer); ASTM Des. A-780 (Standard Practice for Repair of Damaged Hot-Dip Galvanized Coatings; SSPC-Paint 20 (Specification for Zinc-Rich Primer)
- Passes 3,000 hours salt spray testing without failure (ASTM Des. B117)
- Passes Prece Test (ASTM Des. A239) for hot-dip galvanizing
- Passes 9-year subtropical testing
- Low VOC approved in all 50 states
- ISO 9001 registration assures the highest quality consistency



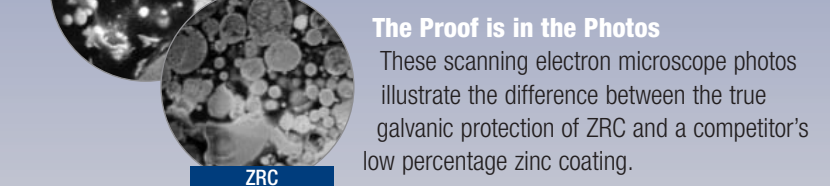
APPLICATIONS

- Field applied galvanizing
- Repairing hot-dip galvanizing
- Rust proofing welds
- Repairing inorganic zinc
- Re-galvanizing of worn hot-dip
- Metal fabrication
- Construction
- Manufacturing/OEM
- Antenna Towers
- Petrochemical Plants
- Roads & Bridges
- Tanks
- Industrial Maintenance
- Water Treatment
- Marine & Offshore
- Cooling Towers
- Hundreds more!

THE ZRC DIFFERENCE

The ZRC difference is made possible by ZRC's high zinc content (95% by weight in the dried film) of "ultra pure" (ASTM D 520 Type III) zinc dust, ensuring that more metallic zinc is available for superior galvanic protection against corrosion. This high purity zinc dust is compounded with a tenacious non-encapsulating binder using a highly controlled trace secret process in our state-of-the-art manufacturing facility.

The result is a self-healing galvanic film that does not require sandblasting for most applications, providing both up-front labor savings and extended longevity of corrosion protection. We offer a Certificate of Compliance to these exacting material standards and a copy of our most recent ISO Registration Certificate.



The Proof is in the Photos
These scanning electron microscope photos illustrate the difference between the true galvanic protection of ZRC and a competitor's low percentage zinc coating.

TESTING & SPECIFICATION CONFORMANCE DATA

- Meets and exceeds Fed. Spec. DOD-P-21035A, formerly MIL-P-21035 (Galvanizing Repair Spec)
- Meets and exceeds Fed. Spec. MIL-P-26915A (USAF Zinc Dust Primer)
- Passes 3,000 hours salt spray testing without failure* (ASTM Des. B117)
- Passes Prece Test (ASTM Des. A239) for hot-dip galvanizing
- Resists intermittent dry-heat temperatures up to 750°F
- Meets and exceeds ASTM Des. A-780 (Standard Practice for Repair of Damaged Hot-Dip Galvanized Coatings)
- Meets and exceeds SSPC-Paint 20 (Specification for Zinc-Rich Primers, Type I Organic, Lead I, Type III zinc dust)

AVAILABILITY/COST
Immediately available off the shelf, ZRC Cold Galvanizing Compound is offered directly from the manufacturer, or through a worldwide distribution network. The initial cost of ZRC is more than offset by substantial maintenance savings and the increased service life of protected surfaces. Contact ZRC Worldwide for current pricing and further information.

MATERIALS/FINISHES
Original formulation of 95% pure zinc metal as a liquid coating, ZRC Cold Galvanizing Compound is manufactured to existing standards in our own state-of-the-art manufacturing facility.

SUGGESTED SPECIFICATION
Organic Zinc-Rich coating containing 95% metallic zinc, by weight in the dried film, as manufactured by ZRC Worldwide, Mansfield, MA (www.zrcworldwide.com) or other facility having been registered to the International Organization for Standardization ISO 9001 standard for quality.

For areas and industries with more stringent VOC restrictions specify ZRC 221.
** Copy of reports available upon request



Technical Data	
TYPE	Single pack, premixed, ready to apply, liquid organic zinc compound
THEORETICAL COVERAGE	400 ft ² /gal @ 1.5 mil dry film thickness
METALLIC ZINC CONTENT	95% by weight in dry film
FLASH POINT	111°F (44°C) (SETA method, ASTM D3278)
VOC CONTENT	3.3 lbs/gal (285 gm/ft ³) (ASTM D3960)
WEIGHT PER GALLON	24 lbs. (ASTM D1475)
SOLIDS CONTENT	86% by weight/52% by volume
VISCOSITY	1000 cps. Brookfield spindle #5 @ 100 RPM @ 25°C
MAXIMUM SERVICE TEMP - Intermittent	750°F (399°C)
MAXIMUM SERVICE TEMP - Constant	350°F (177°C)
ELECTRICAL CONDUCTIVITY	73 milli ohms per square @ 3 mils dry resistivity
IMPACT RESISTANCE	Greater than 30 inch-lbs. (testation) per ASTM D2794
ADHESION RESISTANCE	11.5 liters per dry mil (tested @ 3 dry mils) per ASTM D98-51
POI LIFE	At least 24 hrs.
SHELF LIFE	Liquid - 3 yrs.; Aerosol - 1 yr.
PACKAGING	3.5 gallon pails, gallon, quart, and aerosol cans
DRY TIME	Set to touch. When ambient air dried, 20-30 min. @ 1.5 mil (50µ) thickness
RECOAT TIME	12 hrs. Under certain conditions, recoat time can be reduced. Please contact manufacturer for specifics.
TOPCOATING	After 24-48 hrs., topcoat with acrylic, epoxy, urethane or vinyl type products. DO NOT USE alkyl, alkyl-modified alkyl, or lacquer type products. Consult our dealer to topcoat for detailed instructions.

Surface Preparation	
Dependent upon surface condition and intended service. Typical examples include:	
GREASE & OILS	Solvent clean to SSPC-SP1
RUST SCALE	Power tool clean to SSPC-SP3 or SSPC-SP11
MILL SCALE	Sandblast to SSPC-SP6 (commercial)
WATER IMMERSION	(100°F maximum) Sandblast to SSPC-SP10 (near-white)
Application	
BRUSH/ROLLER/AEROSOL	Apply as received in container
SPRAY (low pressure compressor type)	
Pump/Air pressure	50 bar/in ² = 3.5 kg/cm ²
Fluid pressure	15-20 bar/in ² = 1.1-1.4 kg/cm ²
Office tip	0.006 inches (0.20 cm)
Viscosity reduction	4.1 ZRC:XXX Thinner -GR, 16:1 ZRC:Xylol/Xylene
SPRAY (airless type)	
Pump	≥0.1
Hose	1/2" (1.3 cm) (I.D.)
Office tip	60°-9.026 inches (0.07 cm)
Type of tip	Tungsten carbide, reversing
Filter screens	Complete removal is recommended. However, if screens are employed, use no less than 30 mesh.
Viscosity	No reduction required
Recommended procedure	Connect hose directly to pump, without filter assembly, ensuring a hose length of 50 ft. max. Use in ppd agitator or continuous recirculating. Use least pressure possible. Start at 1500 bar/in ² = 105 kg/cm ² and increase as required for good spraying.
CLEAN UP	ZRC XXX Thinner* or Xylol/Xylene

* XXX Thinner is our special solvent.



ZRC Worldwide has been registered by Underwriters Laboratories, Inc., to the International Organization for Standardization ISO 9001 Series Standards for Quality. The fact that ZRC is registered to ISO 9001 assures our customers that the zinc-rich coating manufactured in our facility are designed and manufactured according to the most stringent quality control standards, so you can rely on their consistency.

Construction

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 Armatoc 110 EpoEcm (consult Technical Data Sheet).

Priming	Concrete Substrate: Prime the prepared substrate with a brush or sprayed application coat of Sika Armatoc 110 EpoEcm (consult Technical Data Sheet). Alternatively, a scrub coat of SikaTop 123 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 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 proportions is necessary.
Application & Finish	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 final 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.
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 lifts 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.
Limitations	*Preventing of curing compound is recommended. <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. 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.
Caution	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. 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 PPEs are exceeded, an appropriate, NIOSH approved respirator is required. Remove contaminated clothing.
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: Unmixed material can be removed with water. Cured material can only be removed mechanically.

KEEP CONTAINER TIGHTLY CLOSED - KEEP OUT OF REACH OF CHILDREN - NOT FOR INTERNAL CONSUMPTION - FOR INDUSTRIAL USE ONLY

All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products. The use of the Sika products must meet the conditions of application for the intended application and purpose before proceeding with the application of the products. Sika reserves the right to change the properties of its products without notice. All sales of Sika products are subject to our current terms and conditions available at www.sikausa.com or by calling 800-933-7452.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the products most current Technical Data Sheet, product label and Material Safety Data Sheet which are available online at www.sikausa.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 Technical Data Sheet, product label and Material Safety Data Sheet prior to product use.

LIMITED WARRANTY: Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical specifications in the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NOTHING CONTAINED HEREIN SHALL BE HELD TO BE A WARRANTY OR ACCEPTANCE OF LIABILITY FOR SPECIAL, INCIDENTAL DAMAGES, UNUSUAL OR CONSEQUENTIAL DAMAGES, OR DAMAGES OF ANY KIND.** **PURPOSE: SIKASHALL NOT BE HELD LIABILITY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKASHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. VISIT OUR WEBSITE AT www.sikausa.com**

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

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Priming	Concrete Substrate: Prime the prepared substrate with a brush or sprayed application coat of Sika Armatoc 110 EpoEcm (consult Technical 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 applied into the wet scrub coat before it dries. 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 to 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.
Mixing	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.
Limitations	*Preventing of curing compound is recommended. <ul style="list-style-type: none"> • Application thickness: Min. 1 1/8 inch (30 mm); Max. in one lift 4 inches (100 mm) • 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.
Caution	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. 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 PPEs are exceeded, an appropriate, NIOSH approved respirator is required. Remove contaminated clothing.
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.

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Product Data Sheet
Edition 1.28.2014
SikaTop 123 Plus

SikaTop® 123 PLUS

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

Description
SikaTop 123 PLUS is a two-component, polymer-modified, portland cement, fast-setting, non-sag mortar. It is a high performance repair mortar for vertical and overhead surfaces, and offers the additional benefit of FerroGard 901, a penetrating corrosion inhibitor.

Where to Use

- 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, wastewater water treatment facilities, roads, walkways, bridges, tunnels, dams, ramps, etc.
- Approved for repairs over cathodic protection systems.

Advantages

- High compressive and flexural strengths.
- High early strengths.
- Increased freeze/thaw durability and resistance to de-icing 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 ECAULSPHS standards for surface contact with potable water.
- USDA approved.
- ANSINSF Standard 61 potable water approved.

Yield
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.

Application Time
Approximately 15 min. after adding Component 'B' to Component 'A'. Application time is dependent on temperature and relative humidity.

Finishing Time
20 to 60 min after combining components; depends on temperature, relative humidity, and type of finish desired.

Density (wet mix)
132 lbs./cu. ft. (2.2 kg/l)

Flexural Strength (ASTM C-293)
28 days 2,000 psi (13.8 MPa)

Splitting Tensile Strength (ASTM C-496)
28 days 900 psi (6.2 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 (24.1 MPa)
7 days 6,000 psi (41.4 MPa)
28 days 7,000 psi (48.3 MPa)


Permeability (ASTM C-1308)
28 days Approximately 500 Coulombs. Electrical resistivity (ohm-cm) 27,000

Cracked Beam Corrosion (ASTM C-666)
300 cycles 98%

Corrosion Testing for FerroGard 901
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



Product Data Sheet
Edition 5.3.2011
SikaTop 122 Plus

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

- 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

- 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 de-icing 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 ECAULSPHS standards for surface contact with potable water.
- USDA approved for food industry.
- ANSINSF 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 (ASTM C-1308)
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
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 Armatoc 110 EpoEcm (consult Technical Data Sheet).

Concrete Substrate: Prime the prepared substrate with a brush or sprayed application coat of Sika Armatoc 110 EpoEcm (consult Technical 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 applied into the wet scrub coat before it dries. 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 to 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.

Limitations

- Application thickness: Min. 1 1/8 inch (30 mm); Max. in one lift 4 inches (100 mm)
- 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.

Caution
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.
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