

SikaRepair® 223

One component, early strength
gaining, cementitious patching material

Description	SikaRepair® 223 is a one-component, early strength gaining, cementitious, patching material for vertical and overhead repair of concrete.
Where to Use	<ul style="list-style-type: none">■ On grade, above, and below grade on concrete and mortar.■ As a repair material for vertical and overhead concrete surfaces.
Advantages	<ul style="list-style-type: none">■ Easy-to-use.■ Suitable for exterior and interior applications.■ Easily applied to clean, sound substrate.■ High early strengths.■ Increased abrasion resistance.■ Increased freeze/thaw resistance.■ Not a vapor barrier.■ Not flammable.
Coverage	Approximately 0.41 cu. ft.
Packaging	SikaRepair® 223 - 50 lb. multi-wall bag. SikaLatex R - 1 gal. plastic jug; 4/carton, 5 gal. pails

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 bags.	
Storage Conditions	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.	
Color	Concrete gray	
Mixing Ratio	gallon to 1 gallon of liquid per 50 lb. bag	
Application Time	Approximately 15 min. after adding powder to Latex or Latex R. Application time is dependent on temperature and relative humidity.	
Finishing Time	20 to 60 min after combining powder and liquid: depends on temperature, relative humidity, and type of finish desired.	
Flexural Strength (ASTM C-293)		with undiluted Latex R
28 days	850 psi (5.9 MPa)	1,200 psi (8.2 MPa)
Splitting Tensile Strength (ASTM C-496)		
28 days	550 psi (3.8 MPa)	700 psi (4.8 MPa)
Bond Strength * (ASTM C-882 modified)		
28 days	1,800 psi (12.4 MPa)	2,000 psi (13.8 MPa)
Compressive Strength (ASTM C-109)		
1 day	>3,500 psi (20.7 MPa)	>4,000 psi (22.8 MPa)
7 days	6,000 psi (41.4 MPa)	6,200 psi (42.8 MPa)
28 days	>7,500 psi (48.3 MPa)	>8,000 psi (51.7 MPa)

*Mortar scrubbed into substrate

Construction



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How to Use

Surface Preparation	Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1/4 inch in depth. Preparation work should be done by scabblor or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of ±1/8 inch (CSP-6). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.
Priming	For priming of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Technical Data Sheet). 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 SikaRepair® 223 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	With water: Wet down all tools and mixer to be used. Add approximately 3/4 gallon of water to mixing vessel. Slowly add 1 bag of SikaRepair® 223 while continuing to mix. Mechanically mix with a low-speed drill (400-600 rpm) and Sika paddle. 1/4 gallon of water may be added to achieve desired consistency. Do not over water. Maintain a mix temperature of 65°-75°F for maximum performance by using hot or cold water as needed. With Latex R: Pour 3/4 gallon of SikaLatex® R into the mixing container. Slowly add powder while continuing to mix mechanically as above. Add remaining SikaLatex® R (up to 1/4 gallon) to adjust the desired consistency. note: SikaLatex® R must be protected from freezing. If frozen, discard. With diluted Latex R: SikaLatex® R may be diluted up to 5:1 (water:SikaLatex® R) for projects requiring minimal polymer-modification. Pour 3/4 gallon of the mixture into the mixing container. Slowly add powder and mix as above. Add remaining diluted SikaLatex® R (up to 1/4 gallon) to adjust the desired consistency.
Application	At the time of application, surfaces should be saturated surface dry (SSD) with no standing water. Mortar 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 1/2 inch minimum. 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 to set to desired stiffness, then finish with wood or sponge float for a smooth surface, or texture as required. For repairs greater than 1 inch in depth, the use of SikaRepair® 222 extended with coarse aggregate, and appropriate formwork is also recommended. Important: Maximum bond is achieved with application of a scrub coat on properly prepared, saturated surface dry (SSD) substrate.
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. 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.
Limitations	<ul style="list-style-type: none"> ■ Application thickness: (with water and diluted Latex R) Minimum 1/4 inch (6 mm). Maximum in one lift 1.5 inch (38 mm). ■ Application thickness: (with undiluted Latex R) Minimum 1/8 inch (3 mm). Maximum in one lift 1.5 inch (38 mm). ■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application. ■ Use only potable water. ■ Do not use solvent-based curing compound. ■ 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.



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