



## PRODUCT DATA SHEET

# SikaRepair®-222

One-component, early strength gaining, cementitious patching material

### PRODUCT DESCRIPTION

SikaRepair®-222 is a one-component, early strength gaining, cementitious, patching material for horizontal repair of concrete.

### USES

- On grade, above and below grade on concrete and mortar
- As a repair material for spalled horizontal concrete surfaces, walkways, ramps, steps, etc.

### CHARACTERISTICS / ADVANTAGES

- Easy-to-use; just add water
- Suitable for exterior and interior applications
- Not flammable
- Easily applied to clean, sound substrate
- High early strengths

### PRODUCT INFORMATION

<b>Packaging</b>	SikaRepair®-222: 50 lb. (22.7 kg) bag SikaLatex® (R): 1 gal. (3.8 L) plastic jug and 5 gal. (19 L) pail
<b>Appearance / Color</b>	Gray powder
<b>Shelf Life</b>	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging
<b>Storage Conditions</b>	Store dry at 40–95 °F (4–35 °C). Protect from moisture. If damp, discard material.

## TECHNICAL INFORMATION

Compressive Strength	Water	SikaLatex® R	(ASTM C-109) 73 °F (23 °C) 50 % R.H.
1 day	> 2,000 psi (13.8 MPa)	2,300 psi (15.9 MPa)	
7 days	4,000 psi (27.6 MPa)	4,500 psi (31.0 MPa)	
28 days	5,000 psi (34.5 MPa)	5,500 psi (37.9 MPa)	

  

Flexural Strength	Water	SikaLatex® R	(ASTM C-293) 73 °F (23 °C) 50 % R.H.
28 days	750 psi (5.1 MPa)	1,200 psi (8.2 MPa)	

  

Splitting Tensile Strength	Water	SikaLatex® R	(ASTM C-496) 73 °F (23 °C) 50 % R.H.
28 days	450 psi (3.1 MPa)	700 psi (4.8 MPa)	

  

Tensile Adhesion Strength	Water	SikaLatex® R	(ASTM C-882 modified)*
28 days	2,000 psi (13.8 MPa)	2,000 psi (13.8 MPa)	

\* Mortar scrubbed into substrate (73 °F (23 °C) and 50 % R.H.)

## APPLICATION INFORMATION

Mixing Ratio	3/4 - 7/8 gal. (2.8 - 3.3 L) of liquid		
Coverage	Neat	0.42 ft <sup>3</sup> (0.01 m <sup>3</sup> )	
	Extended with 32 lb (14.5 kg) of 3/8" (9.5 mm) gravel	0.62 ft <sup>3</sup> (0.02 m <sup>3</sup> )	
(Coverage figures do not include allowance for surface profile and porosity or material waste)			
Layer Thickness	<b>Neat</b>	<b>Min.</b>	<b>Max.</b>
	Water and diluted SikaLatex® R	1/4" (6 mm)	1" (25 mm)
	undiluted SikaLatex® R	1/8" (3 mm)	1" (25 mm)
	<b>Extended</b>	<b>Min.</b>	<b>Max.</b>
Water and SikaLatex® R	1" (25 mm)	4" (100 mm)	
Product Temperature	65–75 °F (18–24 °C)		
Ambient Air Temperature	> 45 °F (7 °C)		
Substrate Temperature	> 45 °F (7 °C)		
Pot Life	~ 30 minutes As the temperature will affect the pot life, application temperature: <ul style="list-style-type: none"> <li>▪ Above 73 °F (23 °C) will reduce the pot life and slump</li> <li>▪ Below 73 °F (23 °C) will extend the pot life and slump</li> </ul>		
Finishing Time	~50–120 minutes		

# APPLICATION INSTRUCTIONS

## SURFACE PREPARATION

### Surface preparation

- Surface must be clean and sound. Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials from the area to be repaired.
- Preparation work should be done by high pressure water blast, scabber, or other appropriate mechanical means. Obtain an exposed aggregate surface with a minimum surface profile of  $\pm 1/8"$  (3 mm) (CSP-6) on clean, sound concrete.
- To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test.
- 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 SikaRepair®-222 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:** Start with 3/4 gal. (2.8 L) of water added to the mixing vessel. Add 1 bag of SikaRepair®-222 while continuing to mix with a low-speed drill (400-600 rpm) and mixing paddle or in an appropriate mortar mixer. Add up to another 1/8 gal (0.5 L) of water to achieve desired consistency. Do not over-water.
- **With SikaLatex® R:** Pour 3/4 gal. (2.8 L) of SikaLatex® R into the mixing container. Slowly add powder, mix and adjust as above.
- **With diluted SikaLatex® R:** SikaLatex® R may be diluted up to 5:1 (water: SikaLatex® R) for projects requiring minimal polymer modification. Pour 3/4 gal. (2.8 L) of the mixture into the mixing container. Slowly add powder, mix and adjust as above.

### Extension with aggregates:

- For applications greater than 1" (25 mm) in depth, add 3/8" (9.5 mm) coarse aggregate.
- The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, SSD, have low absorption and high density, and comply with ASTM C-33 size number 8 per Table 2.
- Variances in aggregate may result in different strengths.
- The addition rate is 32 lb. (14.5 kg) of aggregate per bag. It is approximately 2.5-3 gal. (9.5-11.3 L) by loose volume of aggregate.
- Water may be varied to achieve the desired consistency. Do not over water.

## APPLICATION

- The prepared 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.
- Allow mortar to set to desired stiffness, then finish.
- Mixing, placing and finishing should not exceed 45 minutes.

## CURING TREATMENT

- 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.

\* Pretesting of curing compound is recommended.

## LIMITATIONS

- Use only potable water
- Not intended for use as an overlay material
- 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
- Not a vapor barrier

## 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.

## OTHER RESTRICTIONS

See Legal Disclaimer.

## 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.

### DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

0 g/L (EPA Method 24)

## LEGAL DISCLAIMER

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

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