PRODUCT DATA SHEET
SikaRepair®-223

ONE COMPONENT, EARLY STRENGTH GAINING, CEMENTITIOUS PATCHING MATERIAL

PRODUCT DESCRIPTION
SikaRepair®-223 is a one-component, early strength gaining, cementitious, patching material for vertical and overhead repair of concrete.

USES
- On grade, above, and below grade on concrete and mortar
- As a repair material for vertical and overhead concrete surfaces

CHARACTERISTICS / ADVANTAGES
- 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 flammable

PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Packaging</th>
<th>SikaRepair®-223</th>
<th>50 lb. (22.7 kg) bag</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SikaLatex® (R)</td>
<td>1 gal (3.8 L) jug, 4/carton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 gal (19 L) pail</td>
</tr>
</tbody>
</table>

| Appearance / Color | Gray powder      |

| 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 from moisture. If damp, discard material |
### TECHNICAL INFORMATION

#### Compressive Strength

<table>
<thead>
<tr>
<th></th>
<th>Water</th>
<th>SikaLatex® R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>&gt; 3,500 psi (24.1 MPa)</td>
<td>&gt; 4,000 psi (27.6 MPa)</td>
</tr>
<tr>
<td>7 days</td>
<td>6,000 psi (41.4 MPa)</td>
<td>6,200 psi (42.7 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>&gt; 7,500 psi (51.7 MPa)</td>
<td>&gt; 8,000 psi (55.2 MPa)</td>
</tr>
</tbody>
</table>

(Compressive Strength ASTM C-109; 73 °F (23 °C), 50% R.H.)

#### Flexural Strength

<table>
<thead>
<tr>
<th></th>
<th>Water</th>
<th>SikaLatex® R</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>850 psi (5.9 MPa)</td>
<td>1,200 psi (8.2 MPa)</td>
</tr>
</tbody>
</table>

(ASTM C-293; 73 °F (23 °C), 50% R.H.)

#### Splitting Tensile Strength

<table>
<thead>
<tr>
<th></th>
<th>Water</th>
<th>SikaLatex® R</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>550 psi (5.8 MPa)</td>
<td>700 psi (4.8 MPa)</td>
</tr>
</tbody>
</table>

(ASTM C-496; 73 °F (23 °C), 50% R.H.)

#### Slant Shear Strength

<table>
<thead>
<tr>
<th></th>
<th>Water</th>
<th>SikaLatex® R</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>1,800 psi (12.4 MPa)</td>
<td>2,000 psi (13.8 MPa)</td>
</tr>
</tbody>
</table>

(FASTM C-882 modified)*

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

### APPLICATION INFORMATION

#### Mixing Ratio

3/4 - 1 gal. (2.8 - 3.8 L) of liquid

#### Coverage

0.41 ft³ (0.01 m³) per bag

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

#### Layer Thickness

<table>
<thead>
<tr>
<th></th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and diluted SikaLatex® R</td>
<td>1/4” (6 mm)</td>
<td>1-1/2” (38 mm)</td>
</tr>
<tr>
<td>Undiluted SikaLatex® R</td>
<td>1/8” (3 mm)</td>
<td>1-1/2” (38 mm)</td>
</tr>
</tbody>
</table>

#### Product Temperature

65–75 °F (18–24 °C)

#### Ambient Air Temperature

45–86 °F (7–30 °C)

#### Substrate Temperature

45–86 °F (7–30 °C)

#### Pot Life

~ 15 minutes

As the temperature will affect the pot life, application temperature:

* Above 73 °F (23 °C) will reduce the pot life
* Below 73 °F (23 °C) will extend the pot life

#### Finishing Time

~ 20 to 60 minutes
APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Substrate 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.
- Be sure repair area is not less than 1/4" (6.3 mm) deep.
- Preparation work should be done by high pressure water blast, scabbler, or other appropriate mechanical means. Obtain an exposed aggregate surface with a minimum surface profile of ± 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.
- 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 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: Start with 3/4 gal. (2.8 L) of water added to the mixing vessel. Add 1 bag of SikaRepair®-223 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 1/4 gal (1 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.

APPLICATION
- At the time of application, surfaces should be 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" (12.7 mm) 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. SSD 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" (25.4 mm) in depth, the use of SikaRepair®-223 extended with coarse aggregate, and appropriate formwork is also recommended.
- 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.
- Variances in aggregate may result in different strengths.

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
- 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
- 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.

LOCAL RESTRICTIONS

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.

ECOLOGY, HEALTH AND SAFETY

Keep container tightly closed. Keep out of reach of children. Not for internal consumption. For industrial use only. For professional use only. For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety related data. Read the current actual Safety Data Sheet before using the product. In case of 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 NOTES

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 instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use. SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product 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. No other warranties express or implied shall apply including any warranty of merchantability or fitness for a particular purpose. Sika shall not be liable under any legal theory for special or consequential damages. Sika shall not be responsible for the use of this product in a manner to infringe on any patent or any other intellectual property rights held by others. Sale of Sika products are subject to Sika’s terms and conditions of sale available at http://usa.sika.com/ or by calling 201-933-8800.