

PRODUCT DATA SHEET

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MAINTENANCE OF CONCRETE

SikaRepair®-223^{CA}

ONE-COMPONENT, EARLY STRENGTH-GAINING, CEMENTITIOUS PATCHING MORTAR

Description	SikaRepair®-223 ^{CA} is a one-component, early strength-gaining, cementitious, patching mortar for vertical and overhead concrete repair.
Where to Use	- Use on grade, above, and below grade on concrete and mortar - Use to repair vertical and overhead surfaces, walkways, ramps
Advantages	- Easy to use; just add water - High early strength - Not a vapour barrier - Formulated with inert, non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (AAR) - SikaRepair®-223^{CA} performance may be enhanced with the addition of Sika® Latex R

Technical Data

Packaging	17 kg (37.5 lb) multi-wall bag	
Colour	Concrete Grey	
Yield	Approx. 9.5 L (0.335 ft³)	
Shelf Life	12 months in original, unopened bag. Store dry, ensuring that product is not exposed to rain, condensation or high humidity. For best results, condition product at +18 °C to +29 °C (65 °F to 84 °F) before using. Protect Sika® Latex R from freezing. If frozen, discard.	
Mix Ratio (by weight)	Water/Powder	Sika® Latex R/Powder
	1:6	1:5.2
Application Time	15 - 25 min	15 - 25 min
Finishing Time	30 - 50 min	30 - 50 min
Properties at 23 °C (73 °F) and 50 % R.H.		
Density ASTM C 185	2075 kg/m³ (130 lb/ft³)	2050 kg/m³ (128 lb/ft³)
Compressive Strength ASTM C109, MPa (psi)		
24 hrs	15 (2175)	20 (2900)
14 days	30 (4350)	40 (5800)
28 days	40 (5800)	45 (6526)
Modulus of Elasticity ASTM C469, GPa (psi)		
7 days	23 (3.3 x 10 ⁶)	18 (2.6 x 10 ⁶)
Tensile Splitting Strength ASTM C496, MPa (psi)		
21 days	4 (580)	5 (725)
Bond Strength CAN A23.2-6B, MPa (psi)		
35 MPa (5075 psi) air entrained concrete substrate		
7 days	1.5 (217)	2.5 (362)

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

HOW TO USE

Surface Preparation	Following ICRI Guideline 310.2, the concrete surface must be clean, sound and mechanically prepared to obtain a surface profile of ICRI / CSP 6 –10 (ex : hydrodemolition, scarification, scabbling + sandblasting, etc.). Follow ICRI Guideline 310.1 for the preparation of the repair perimeter, the repair area geometry and for the cleaning of the concrete and reinforcing steel surfaces. Verify the absence of micro cracking following ICRI Guideline 310.2.
Mixing	Mix using a heavy duty low speed electric drill/mixer (300 - 450 rpm) and mixing paddle (<i>Jiffy</i> or <i>Exomixer</i> ®/spiral type) or a mortar mixer. Pour approx. 2.5 L (0.66 US gal.) of potable water in a clean mixer or pail. Add SikaRepair®-223 ^{CA} slowly while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add additional water if a more fluid consistency is desired. Do not overwater. Excessive water/cement ratios may cause severe bleeding and retardation and will reduce the strength and performance of the mortar. For enhanced performance, SikaRepair®-223 ^{CA} may be used with Sika® Latex R instead of water. Use up to 1 jug of Sika® Latex R per 17 kg (37.5 lb) bag of depending on consistency desired.

Application	At time of application, the surface should be damp but saturated surface dry (SSD) with no standing water. A thin layer of mortar of +/- 3 mm (1/8 in) must be scrubbed firmly into substrate to fill all pores and voids. Alternatively, SikaTop® Armatex-110 EpoCem® can be used as a bonding agent. Apply the desired mortar layer before bond coat dries. Force product against the edges of repair, working toward center. After filling the repair, consolidate then trim the surface flush with adjacent concrete sides. Allow mortar to reach initial set [30-60 min after placing at +23 °C (73 °F)], then finish with wood or sponge float for a textured surface. For a smooth finish, use a steel trowel wiped with Component A during finishing. If the repair requires several lifts (layers), apply the mortar leaving a rough profile and score the surface immediately in a crosshatch pattern using the corner of a steel trowel to a depth of approximately 6 mm (1/4 in) to provide a mechanical key (with exception to the last layer. Unfinished work from previous day must be roughened and any polymer film removed to ensure bond.
Curing	To achieve performance consistent with the technical data, curing is required and must be provided as per ACI 308 recommendations for cement concrete. Execute curing by recognized methods such as wet burlap covered with white polyethylene film, misting with water, or approved water-based curing compound, such as Sika® Florseal® WB-18 & -25. Alternatively, the use of Sika® Ultracure DOT™ or NCF™ wet curing blankets is strongly recommended. Curing must commence immediately after placing and finishing. Protect freshly applied product from direct sunlight, strong winds, rain and freezing.
Clean Up	Clean all tools and equipment after use with water. Once hardened, the product can only be removed mechanically.
Limitations	▪ Minimum application thickness: 3 mm (1/8 in). ▪ Maximum layer thickness: 38 mm (1½ in). Maximum total applied thickness should not exceed 76 mm (3 in) without additional reinforcing support. ▪ Minimum ambient and substrate temperature: +7 °C (45 °F) and rising at time of application. ▪ Protect the freshly applied mortar from freezing for a period of 24 hours. ▪ Storage is particularly important, it is essential to protect bagged material from exposure to rain, condensation and high humidity as moisture may penetrate the bag, causing lumps. ▪ Do not overwater. ▪ Use only potable water.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data. KEEP OUT OF REACH OF CHILDREN FOR INDUSTRIAL USE ONLY

The Information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelflife. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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