



## PRODUCT DATA SHEET

# SikaQuick®-1000

### RAPID-HARDENING REPAIR MORTAR WITH EXTENDED WORKING TIME



#### PRODUCT DESCRIPTION

SikaQuick®-1000 is a 1-component, rapid-hardening, early-strength gaining, cementitious, patching material for concrete.

#### WHERE TO USE

- Use on grade, above and below grade on concrete
- Highway overlays and repairs
- Structural repair material for concrete roadways, parking structures, bridges, dams and ramps
- Full depth patching repairs
- Horizontal repairs of concrete and mortar

#### CHARACTERISTICS / ADVANTAGES

- Specifically suited for hot weather applications when extended working time is required
- Rapid hardening as defined by ASTM C928
- Can be used with Sikacem® Accelerator for cold conditions, increased early strengths and reduced curing time
- Compatible with Sikafloor®, SikaBond®, and Sika® AcouBond systems

#### PRODUCT INFORMATION

CSC MasterFormat®	03 01 00   MAINTENANCE OF CONCRETE
Packaging	25 kg (55 lb) bag
Shelf Life	12 months in original, unopened packaging.

- Allows application of an epoxy coating within 6 hours
- Freeze/thaw resistant
- Easy to use; economical patching and labour saving material
- Contains no added chlorides
- Formulated with inert, non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (AAR).
- Open to foot traffic in 4 hours, to vehicle traffic in 6 hours [+23 °C (73 °F)]
- Easily applied to clean, sound substrates
- Not a vapour barrier
- Product recognized by the British Columbia Ministry of Transportation (BC MoT)
- Meets CFIA and USDA requirements for use in food plants

#### ENVIRONMENTAL INFORMATION

- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization - Environmental Product Declarations
- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization - Material Ingredients

**Storage Conditions**

Stored (unopened) in a dry place at temperatures ranging between +5 °C and +32 °C (41 °F and 89 °F). For best results, condition product at temperatures between +18 °C and + 29 °C (65 °F and 84 °F) before using.

**Appearance / Colour**

Concrete Grey

**TECHNICAL INFORMATION****Compressive Strength**

1 day	30 MPa (4 350 psi)	(ASTM C109)
7 days	40 MPa (5 800 psi)	
28 days	50 MPa (7 250 psi)	

\* Compressive Strength (tested with SikaCem® Accelerator), ASTM C109

Temperature	Dosage	12 hours	1 day	2 days	28 days
-5 °C (23 °F)	1 bottle (150 mL)	15 MPa (2175 psi)	19 MPa (2755 psi)	26 MPa (3770 psi)	-
-5 °C (23 °F)	2 bottles (300 mL)	17 MPa (2465 psi)	19 MPa (2755 psi)	27 MPa (3916 psi)	-
0 °C (32 °F)	1 bottle (150 mL)	23 MPa (3335 psi)	35 MPa (5076 psi)	41 MPa (5946 psi)	62 MPa (8992 psi)
0 °C (32 °F)	2 bottles (300 mL)	29 MPa (4206 psi)	43 MPa (6236 psi)	48 MPa (6961 psi)	69 MPa (10 007 psi)
10 °C (50 °F)	1 bottle (150 mL)	30 MPa (4350 psi)	40 MPa (5800 psi)	45 MPa (6526 psi)	68 MPa (9862 psi)
10 °C (50 °F)	2 bottles (300 mL)	36 MPa (5221 psi)	45 MPa (6526 psi)	50 MPa (7250 psi)	70 MPa (10 152 psi)
23 °C (73 °F)	1 bottle (150 mL)	42 MPa (6091 psi)	48 MPa (6961 psi)	52 MPa (7541 psi)	68 MPa (9862 psi)
23 °C (73 °F)	2 bottles (300 mL)	48 MPa (6961 psi)	53 MPa (7687 psi)	54 MPa (7832 psi)	70 MPa (10 152 psi)

\*All moulds, mixing tools and powder components were pre-conditioned to the test temperatures. Prepared test specimens were cast and then cured at the indicated test temperatures until the time of testing. Liquid/solids ratio (water + Sikacem® Accelerator/SikaQuick®-1000) = 0.115; [2.87 L (0.75 US gal.) of liquid per 25 kg (55 lb) bag of SikaQuick®-1000].

<b>Modulus of Elasticity in Compression</b>	28 days	32.7 GPa (4.7 x 10 <sup>6</sup> psi)	(ASTM C469)
<b>Tensile Strength in Flexure</b>	28 days	8.0 MPa (1160 psi)	(ASTM C78)
<b>Splitting Tensile Strength</b>	28 days	6.0 MPa (870 psi)	(ASTM C496)
<b>Shear Adhesion Strength</b>	28 days	15.5 MPa (2250 psi)	(ASTM C882 modified)
		* Mortar scrubbed into substrate at +23 °C (73 °F) / 50 % r.h.	
<b>Pull-Out Resistance</b>	28 days	> 2.0 MPa (290 psi) Substrate failure	(ACI 503)
<b>Shrinkage</b>	28 days	0.07 %	(ASTM C596)
<b>Freeze thaw resistance</b>	300 cycles	98 %	(ASTM C666)

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	2.6 L to 2.87 L (0.7 - 0.75 US gal.) of water per bag		
<b>Yield</b>	Approx. 13 L (0.459 ft <sup>3</sup> ). When extended with 11 kg (24 lb) of 10 mm (3/8 in) aggregate, yield is approx. 17 L (0.6 ft <sup>3</sup> ).		
<b>Layer Thickness</b>		<b>Min.</b>	<b>Max.</b>
	Neat	6 mm (1/4 in.)	50 mm (2 in.)
	Extended	25 mm (1 in.)	150 mm (6 in.)
	▪ Do not feather edge		
<b>Product Temperature</b>	+18 °C to +29 °C (65 °F to 84 °F)		
<b>Ambient Air Temperature</b>	+7 °C to +30 °C (44 °F to 86 °F)		
<b>Substrate Temperature</b>	+7 °C to +30 °C (44 °F to 86 °F)		
<b>Pot Life</b>	Approx. 30 minutes after adding powder to the water		
<b>Initial Set Time</b>	~ 45 - 65 min		(ASTM C266)
<b>Final Set Time</b>	~ 55 - 100 min		(ASTM C266)

## BASIS OF PRODUCT DATA

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. Properties tested at +23 °C (73 °F) / 50 % r.h. unless stated otherwise.

## LIMITATIONS

- Important: protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- For best results, condition product to +18 °C to +29 °C (65 °F to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Minimum ambient and substrate temperature: -5 °C (23 °F) and rising at time of application when used with Sikacem® Accelerator (refer to Technical Data section for dosage recommendations and strength values at various temperatures).
- Surface should be damp but free from frost and excess water (saturated surface dry).
- Not compatible with normal-setting bonding agents, e.g. SikaTop® Armatec-110 EpoCem® and Sikadur®-32 Hi-Mod.
- Do not featheredge.
- Use only clean potable water.
- Extending with aggregates will reduce compressive and flexural strengths. Dimensions and grading of aggregates will influence effect on physical properties; pre-testing is recommended.

- As with all cement based materials, avoid contact with aluminum to prevent adverse reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur®-32 Hi-Mod.

## ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

Remove all deteriorated concrete, dirt, oil, grease or any contaminants or conditions that may affect adhesion or overall product performances. Be sure repair area is not less than 6 mm (1/4 in) in depth. Following ICRI Guideline 310.2, the concrete surface must be clean, sound and mechanically prepared to obtain a surface profile of CSP 6 – 10 (ex : hydrodemolition, scarification, scabbling + sandblasting, etc.). Follow ICRI Guideline 310.1 for the preparation of the repair perimeter, repair area geometry and for the cleaning of concrete and reinforcing steel surfaces. Verify the absence of micro cracking following ICRI Guideline 310.2. To ensure optimum repair results, the effectiveness of cleaning and preparation should be assessed by a pull-off

test. Saw-cutting the edges is recommended.

**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. Prime the reinforcement steel using SikaTop® Armatec-110 EpoCem® (Consult Product Data Sheet).

## MIXING

Mechanically mix in an appropriately sized mortar mixer. Wet down all tools and mixer to be used. Start with 2.6 L (0.7 US gal.) of clean potable water added to the mixing vessel. Add one bag of SikaQuick®-1000 while continuing to mix. Add up to another 270 mL (9.0 US fl. oz) of additional water to achieve desired consistency. For application exceeding 25 mm (1 in) in depth, add 11 kg (24 lb) of 10 mm (3/8 in) coarse aggregate. The aggregate must be non-reactive (as per ASTM C1260, C227, and C289), clean, well graded, saturated surface dry, have low absorption, high density and comply with ASTM C33, size number 8 per table 2. **Note:** Do not overwater the mix. This may cause excessive bleeding and retardation and will reduce the strength and performance of the material.

## APPLICATION

A scrub coat should be applied prior to placement of mortar. Apply a 3 mm (1/8 in) thick scrub coat of SikaQuick®-1000 into the substrate, filling all pores, voids and edges. Onto the fresh scrub coat, force the mortar against the edge of the repair area or onto the resurfacing site, working towards the centre and observing minimum and maximum layer thicknesses. After filling the repair, screed off excess. Allow concrete to set to desired stiffness, then finish the surface. If a smoother finish is desired, use a magnesium float. Mixing, placing and finishing should not exceed 30 minutes maximum. To control setting times, cold water should be used in hot weather and hot water in cold weather.

## CURING TREATMENT

Protect newly applied material from rain for at least four (4) hours. To prevent from freezing, cover with insulating material. If necessary, cure using Sika® Florseal® WB-18 & -25, which meets ASTM C309 requirements. **Note:** Do not moist/wet cure.

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## CLEAN UP

Clean all tools and equipment immediately after use with water. Once hardened, material can only be removed manually or mechanically.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

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 in accordance with Sika's recommendations. 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](http://www.sika.ca)

### Product Data Sheet

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