



PRODUCT DATA SHEET

SikaQuick®-2500

VERY RAPID-HARDENING REPAIR MORTAR

PRODUCT DESCRIPTION

SikaQuick®-2500 is a 1-component, very 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

- Very 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
- Allows application of an epoxy coating within 4 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 45 minutes, to vehicle traffic in 1 hour [+23 °C (73 °F)]
- Easily applied to clean, sound substrates
- Not a vapour barrier

APPROVALS / CERTIFICATES

- Product recognized by the British Columbia Ministry of Transportation (BC MoT)
- Meets the requirements of CFIA and USDA for use in food plants

PRODUCT INFORMATION

CSC MasterFormat®	03 01 00 MAINTENANCE OF CONCRETE
Packaging	25 kg (55 lb) bag
Appearance / Colour	Powder / Concrete Grey
Shelf Life	12 months in original, unopened packaging.
Storage Conditions	Store (unopened) in a dry place at temperatures 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.

TECHNICAL INFORMATION

Compressive Strength

Compressive Strength	Mortar ASTM C109	Concrete* ASTM C39
1 hour	-	8 MPa (1 160 psi)
2 hours	22 MPa (3 200 psi)	25 MPa (3 630 psi)
4 hours	35 MPa (5 100 psi)	-
1 day	40 MPa (5 800 psi)	33 MPa (4 790 psi)
7 days	53 MPa (7 687 psi)	35 MPa (5 100 psi)
28 days	53 MPa (7 687 psi)	37 MPa (5 366 psi)

*Concrete mix was tested at the addition rate of 12 kg (26.5 lb) of clean, well graded, saturated surface dry, low absorption and high density coarse aggregate. Water was added [2.87 L (0.75 US gal.) per 25 kg (55 lb) bag] to achieve a 125 to 175 mm (5 to 7 in) slump.

Splitting Tensile Strength	6.2 MPa (899 psi)	(ASTM C496) 28 days
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Pull-Off Strength	~2,0 MPa (~300 psi) (substrate failure) after 28 days at +23 °C (73 °F) / 50 % r.h.	(ACI 503)
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Shear Adhesion Strength	Time	Shear Adhesion Strength	(ASTM C882 modified)
	1 day	~12 MPa (~1 800 psi)	
	7 days	~17 MPa (~2 500 psi)	
	28 days	~21 MPa (~2 700 psi)	

These values were measured at +23 °C / 50 % r.h. (73 °F) w/c = 0,12

Shrinkage	0.08 %	0.042 % (ABB)	(ASTM C596) 28 days
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Freeze thaw resistance	98 %	(ASTM C666) 300 cycles
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Chloride Ion Diffusion Resistance	< 500 Coulombs after 28 days at +23 °C (73 °F) / 50 % r.h.	(ASTM C1202)
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APPLICATION INFORMATION

Mixing Ratio	2.6 – 2.87 L (5 1`2 – 6 pints) of water per bag
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Fresh Mortar Density	~2 200 kg/m ³ (~3 718 lb/yd ³)
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Yield	Approx. 13 L (0.459 ft ³) When extended with 12 – 14 kg (26 – 30 lb) of 10 mm (3/8 in) aggregate, yield is approx. 17 – 18 L (0.6 – 0.64 ft ³).
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Layer Thickness	Minimum	Maximum
Mortar	6,0 mm (1/4 in)	25 mm (1 in)
Extended with aggregate	25 mm (1 in)	150 mm (6 in)

Initial Set Time	Approx. 14 – 28 minutes	(ASTM C266)
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Final Set Time	Approx. 20 – 40 minutes	(ASTM C266)
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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, using lumps.
- For best results, condition product to temperatures between +18 °C and +29 °C (65 °F and 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Minimum ambient and surface temperatures: +7 °C (44

°F) and rising.

- Minimum application thickness: 6 mm (1/4 in) as a mortar and 25 mm (1 in) when extended with aggregate.
- Maximum application thickness: 50 mm (2 in) and 150 mm (6 in) when extended with aggregates.
- Not compatible with normal-setting bonding agents, such as 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, the repair area geometry and for the cleaning of the concrete and reinforcing steel surfaces. Saw-cutting the edges is recommended. Saturate the surface to be repaired with clean water. Substrate should be saturated surface dry (SSD) with no standing water prior to application. 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.

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. Start with 2.6 L (5 1/2 pints) of water added to the mixing vessel. Add one (1) bag of SikaQuick®-2500 while continuing to mix. Add up to another 270 mL (1/2 pint) of additional water to achieve desired consistency. For application greater than 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®-2500 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 repair, screed off excess. Allow concrete to set to desired stiffness, then finish. If a smoother finish is desired, use a magnesium float. Mixing, placing and finishing should not exceed 15 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 two (2) hours. To prevent from freezing, cover with insulating material. If necessary, cure using Sika® Florseal® WB-18 & -25, which meets ASTM C309 requirements. **Do not moist/wet cure.**

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

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Product Data Sheet

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