BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET
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MAINTENANCE OF CONCRETE

SikaTop®-122 PLUS

POLYMER-MODIFIED, CEMENTITIOUS, TROWEL-GRADE MORTAR, PLUS MIGRATING CORROSION INHIBITOR

Description

SikaTop®-122 PLUS is a polymer-modified, with migrating corrosion inhibitor added, cementitious, two-component, fast-setting, trowel-grade, easy-to-use patching mortar. Excellent for vertical and horizontal surfaces.

Where to Use

- Use on grade, above, and below grade on concrete and mortar.
- Use as a topping for concrete surfaces.
- Structural repair material for parking structures, industrial plants, walkways, bridges, tunnels, ramps, and dams.
- Use to level concrete surfaces.

Advantages

- Superior abrasion resistance over conventional cement mortar.
- High bond strength ensures superior adhesion.
- Compatible with thermal coefficient of expansion of concrete.
- High early strength.
- Good freeze/thaw resistance.
- Increased resistance to de-icing salts.
- Not a vapour barrier.
- High compressive and flexural strengths.
- Will not corrode stressed steel.
- Formulated with inert, non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (AAR).
- Not flammable.
- Meets MTO MI-67 specification for concrete patching materials.
- Meets Alberta Transportation (AT B391) specification for patching materials.
- Complies with NSF-ANSI Standard 61 for potable water contact (available by special order only).
- Product recognized by the British Columbia Ministry of Transportation (BC MoT).
- Approved by the Ontario Ministry of Transportation (MTO).
- Approved by the Ministère des Transports du Québec (MTQ).
- Product qualified by The Road Authority (TRA).
- Meets the requirements of CFIA and USDA for use in food plants.

Technical Data

Packaging	28.5 kg (62.7 lb) unit
Colour	Concrete Grey when mixed
Yield	Approx. 13 L (0.459 ft^3)
Shelf Life	Component A : 24 months in original, unopened packaging. Component B : 12 months in original, unopened bag. Store dry between 5 and 32 °C (41 and 89 °F). For best results, condition product between 15 and 24 °C (59 and 75 °F) before using. Protect Component A from freezing. If frozen, discard.
Mix Ratio	A:B = 1:7 by weight depending on consistency required

Properties at 23 °C (73 °F) and 50 % R.H.

Application Time	Approx. 30 min after mixing the mortar
Finishing Time	Approx. 50 min to 1 h 15 min after placing the mortar
Density ASTM C185	2200 kg/m^3 (137 lb/ft^3)
Compressive Strength ASTM C109, MPa (psi)	
24 hours	~ 18 (2610)
7 days	~ 37 (5366)
28 days	~ 50 (7250)

***Compressive Strength ASTM C109,** MPa (psi) **(tested with Sikacem® Accelerator)**

Temperature	Dosage	24 hours	2 days	3 days	28 days
0 °C (32 °F)	1 bottle (150 mL)	~ 1 (145)	~ 10 (1450)	~ 17 (2465)	~ 42 (6091)
0 °C (32 °F)	2 bottles (300 mL)	~ 3 (435)	~ 12 (1740)	~ 21 (3045)	~ 45 (6526)
10 °C (50 °F)	1 bottle (150 mL)	~ 20 (2900)	~ 27 (3916)	~ 30 (4351)	~ 47 (6817)
10 °C (50 °F)	2 bottles (300 mL)	~ 22 (3190)	~ 30 (4351)	~ 33 (4786)	~ 50 (7252)
23 °C (73 °F)	1 bottle (150 mL)	~ 27 (3916)	~ 34 (4931)	~ 40 (5801)	~ 55 (7977)
23 °C (73 °F)	2 bottles (300 mL)	~ 30 (4351)	~ 37 (5366)	~ 42 (6091)	~ 57 (8267)

**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.*
Sikacem® Accelerator added to SikaTop® "A" component jug and shaken vigorously to incorporate prior to mixing with SikaTop® "B" component.

Modulus of Elasticity ASTM C469	
7 days	23 GPa (3.3 x 10^6 psi)
28 days	26 GPa (3.8 x 10^6 psi)

Tensile Splitting Strength ASTM C496	
21 days	~ 5.5 MPa (797 psi)
Bond Strength ASTM C882	
24 hours	~ 9 MPa (1305 psi)
28 days	~ 19 MPa (2755 psi)
Bond Strength CAN A23.2-6B	
28 days	Greater than concrete
Rapid Chloride Permeability ASTM C1202	
28 days	Very low - between 100 and 1000 Coulombs
Freeze/Thaw Durability Test ASTM C666	Modulus of elasticity greater than 90% after 300 cycles
VOC Content	< 0.5 g/L
Chemical Resistance	Contact Sika Canada

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

Remove all deteriorated concrete, dirt, oil, grease, other bond inhibiting materials from surface. Be sure patch area is no less than 3 mm (1/8 in) minimum depth. Preparation work should be done by chipping, high-pressure waterblasting or other appropriate mechanical means. Obtain substrate aggregate fracture with a minimum surface profile of ± 3 mm (1/8 in) (CSP 6 - 10 as per ICRI). Dampen surface to be repaired with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.

Mixing

Mix mechanically using a heavy duty, low-speed drill (300 - 450 rpm) with a mixing paddle (ex.: *Mud Mixer* Type). Shake Component A before using, then pour approximately 85% of Component A into mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add additional Component A to mix if a wetter consistency is desired. Should you need smaller quantities, be sure that components are dosed in correct ratio and thoroughly premix component B before dosing. Ratio is A:B = 1:7 by weight approximately. For application greater than 38 mm (1½ in) in depth, add up to 17 kg (37.5 lb) of 10 mm (3/8 in) coarse aggregate. The aggregate must be non-reactive (reference 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.

Application

At time of application, surfaces should be damp (saturated surface dry) with no glistening water. Mortar must be scrubbed into substrate filling all pores and voids. Alternatively, SikaTop® Armatec 110 EpoCem® can be used as a bonding agent. Apply mortar before bond coat dries, then screed. Force product against edge of repair, working toward center. Allow mortar to reach initial set [50 to 75 minutes after placing at 23 °C (73 °F)], then finish with wood or sponge float. For extra smooth finish, wipe steel trowel with Component A during finishing. If repair requires several lifts, each lift must be applied as soon as the previous lift will support it and all surfaces but the last must be left rough. Unfinished work from previous day must be roughened and any polymer film removed to ensure bond.

Curing

As per ACI 308 recommendations for cement concrete, curing is required. To achieve performance consistent with Technical Data, curing must be provided by recognized curing methods, such as wet burlap covered with white polyethylene film 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. Moist-curing must be maintained for the first 24 hours only. Protect freshly applied mortar from direct sunlight, wind, rain and frost.

Clean Up

Clean all tools and equipment after use with water. Once hardened, the product can only be removed manually or mechanically. Wash soiled hands and skin thoroughly in hot soapy water or use Sika® Hand Cleaner towels.

Limitations

Application Thickness:	Minimum:	Maximum:
Neat :	3 mm (1/8 in)	38 mm (1½ in)
Extended	38 mm (1½ in)	100 mm (4 in)

- Mortar should be applied at thinner layer thicknesses, which do not result in slumping, when used vertically.
- Minimum application thickness for surfaces subject to abrasion: 6 mm (1/4 in).
- Minimum ambient and substrate temperature: 7 °C (45 °F) and rising at time of application, unless using Sikacem® Accelerator (refer to Technical Data section for dosage recommendations and strength values at various temperatures).
- Extending with aggregates will reduce compressive and flexural strengths. Dimensions and grading of aggregates will influence effect on physical properties; pre-testing is recommended where required.

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

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