BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET
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Sika MonoTop®-623

ONE-COMPONENT, POLYMER-MODIFIED OVERHEAD AND VERTICAL REPAIR AND REPROFILING MORTAR WITH INTEGRAL CORROSION INHIBITOR

Description

Sika MonoTop®-623 is a one-component, polymer-modified and early strength-gaining, cementitious mortar for overhead and vertical concrete repair and reprofiling. It is based upon Sika's internationally proven and established MonoTop® technology, designed for effective repairs and with the environment in mind.

Where to Use

- On, above, and below grade.
- Overhead and vertical concrete and mortar.
- Cast-in-place, precast and tilt-up structures.
- Exterior and interior applications.

Advantages

- Pre-bagged for quality control and predictable performance.
- Easy to prepare; just add potable water.
- Does not require additional polymer when used for exterior applications.
- Contains integral corrosion inhibitor based on proven technology.
- Formulated with inert, non-reactive aggregates to eliminate potential Alkali-Aggregate Reactivity (AAR).
- Heat of hydration minimized to extend working time, especially in warm conditions.
- Can be hand-placed or wet-sprayed.
- Excellent bond, tensile and flexural strengths.
- High build, yet can be feather-edged.
- High early strength.
- Shrinkage-controlled to reduce length change.
- Very easy to apply; can be shaved or sculpted and easily finished.
- Product produces light grey repairs, similar to precast concrete.

Technical Data

Packaging	22.7 kg (50 lb) multi-wall bag
Colour	Light Grey
Yield	Approx. 12.9 L (0.45 ft³) per 22.7 kg (50 lb) bag
Shelf Life	12 months in original, unopened packaging. Store dry, ensuring that product is not exposed to rain, condensation or high humidity. For best results, condition product at temperatures between 18 and 29 °C (65 and 84 °F) before using.
Mix Ratio	3.5 to 3.78 L (0.92 to 1 US gal.) of water per 22.7 kg (50 lb) bag.
Application Time	20 - 40 min
Finishing Time	40 - 60 min

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

Density ASTM C185	2030 kg/m³ (126 lb/ft³)	
Compressive Strength ASTM C109	24 hours	18 MPa (> 2610 psi)
	7 days	30 MPa (> 4351 psi)
	28 days	40 MPa (> 5801 psi)

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

Temperature	Dosage	24 hours	3 days	7 days	28 days
0 °C (32 °F)	1 bottle (150 mL)	2 (290)	4 (580)	15 (2175)	28 (4060)
0 °C (32 °F)	2 bottles (300 mL)	3 (435)	7 (1015)	20 (2900)	30 (4350)
10 °C (50 °F)	1 bottle (150 mL)	14 (2031)	27 (4351)	36 (5221)	48 (6962)
10 °C (50 °F)	2 bottles (300 mL)	15 (2175)	29 (4205)	38 (5511)	51 (7395)
23 °C (73 °F)	1 bottle (150 mL)	26 (3771)	33 (4785)	41 (5947)	51 (7395)
23 °C (73 °F)	2 bottles (300 mL)	29 (4205)	34 (4931)	44 (6382)	54 (7832)

*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 mix water (water content = 3.32 L (0.87 US gal.) + 1 bottle of Sikacem® Accelerator; water content = 3.14 L (0.82 US gal.) + 2 bottles of Sikacem® Accelerator).

Bond Strength CAN A23.2-6B	> 2.5 MPa (> 362 psi) substrate failure	
Length Change ASTM C157	28 days	< 0.07 %
Splitting Tensile Strength ASTM C496/C496M	28 days	3.5 MPa (508 psi)
Bond Strength ASTM C882-05 MOD (Slant Shear)	28 days	10 MPa (1450 psi)
Modulus of Elasticity ASTM C469-02	28 days	21 GPa (3.05 x 10^6 psi)
Rapid Chloride Permeability ASTM C1202 28 days	~ 600 Coulombs	
Freeze/Thaw Durability Test ASTM C666	> than 90% after 300 cycles	
VOC Content	0 g/L	
Chemical Resistance	Consult 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. 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

For 22.7 kg (50 lb) bagged material , pour approx. 3.5 L (0.92 US gal.) of potable water into a suitably sized and clean mixing container. Add Sika MonoTop®-623 slowly while mechanically-mixing, using a heavy-duty, low-speed drill (300 - 450 rpm) with a Mud Mixer/Box or Propeller-type paddle. Mix to a uniform consistency for a minimum of three (3) minutes. Add additional water to the bagged product up to maximum of 3.78 L (1 US gal.) and, if a more fluid consistency is desired, continue to mix beyond the initial three (3) minute mixing period.

Application

At time of application, repair sites or surfaces should be damp (saturated surface dry) but free from standing water or glistening water films. Apply a 3 mm (1/8 in) thick scrub coat of the mixed mortar into the substrate, filling all pores, voids and edges and completely covering the repair site. Onto the fresh scrub coat, force the mortar against the edge of repair, working towards the centre and observing minimum and maximum layer thicknesses. If the repair requires several lifts (layers), apply the mortar, leaving a rough profile, and then score the surface immediately in a cross-hatch pattern to a depth of approximately 6 mm (1/4 in) to provide a key. Allow the layer to achieve initial set and then apply subsequent layers as soon as the previous lift will support it without being displaced. Allow the completed repair to set to desired stiffness; shave, cut or sculpt and then finish with a steel, wood or sponge float, or texture as required. If using a soft- to medium-density and dampened sponge to finish a repair, work in circular motion to remove trowel marks and merge the mortar with the parent substrate.

Note: Avoid overdampening the sponge or the face of the repair during finishing and avoid over-finishing the material.

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

- 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 to 29 °C (65 to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Maximum lift/layer thickness: 50 mm (2 in).
- Minimum ambient and substrate temperature: 5 °C (41 °F) and rising at time of application.
- Use only potable water and do not overwater.

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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