

PRODUCT DATA SHEET

SikaEmaco®-6000

(formerly MEmaco S 6000)

RAPID-SETTING METHYL METHACRYLATE REPAIR MATERIAL

PRODUCT DESCRIPTION

SikaEmaco®-6000 is a solvent-free, 100% reactive methyl methacrylate liquid component and a specially blended filler component, which includes Sikafloor®-100 HD Pronto. SikaEmaco®-6000 can be extended up to 100% with select aggregates for deeper repairs. Typical cure time is one hour at temperatures ranging from 14 to 104 °F (-10 to 40 °C).

USES

- Exterior
- Horizontal & formed vertical
- Bridge decks
- Parking structures
- Runways
- Civil engineering applications
- Anchor bolts
- Potholes
- Joint nosing repairs
- Bearing pads
- Spalled concrete repairs

Substrates

- Concrete

CHARACTERISTICS / ADVANTAGES

- Fast curing allows fast return of traffic flow on highway and bridge projects
- SikaEmaco®-6000 can be applied at a large range of temperatures, 14 to 104 °F (-10 to 40 °C), for extended application season
- Extendable with aggregate for variable depth placement consistencies
- Two-component for ease of installation
- High strength and excellent bonding capabilities to a variety of concrete substrates
- Durable to withstand freeze-thaw damage
- UV resistance protects product performance from sun exposure

APPROVALS / STANDARDS

- SikaEmaco®-6000 is classified under DOT regulations as Resin Solution, UN 1866, Class 3, PG II.
- Sika resins are manufactured to ISO 9001 standards.

PRODUCT INFORMATION

Chemical Base

SikaEmaco®-6000 Part B is a non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder. SikaEmaco®-6000 Part A is a reactive binder based on methyl methacrylate monomers used with Part B to form a polymer concrete.

Packaging

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- PART A: 4.5 gal (17 kg) pail or 54 gal (190 kg) drum
- PART B: 37 lb (16.7 kg) bags

Shelf Life	2 years when properly stored.
Storage Conditions	Store in unopened containers in cool, clean, dry conditions out of direct sunlight. Maximum storage temperature is 86 °F (30 °C).
Appearance / Color	Part A: Liquid Part B: Gray Powder
Density	Specific Gravity Part A: 0.93 g/cm ³
Bulk Density	Part B Approximately: 78.5lb/ft ³ (1.26kg/m ³)
Viscosity	Part A: 1 cP (1 MPa-sec)

TECHNICAL INFORMATION

Compressive Strength	7,000psi (48.2MPa)	(ASTM C 579)
Modulus of Elasticity in Compression	0.6×10^6 psi (4.1×10^3 MPa)	(ASTM C 469)
Flexural Strength	5,900psi (40.7MPa)	(ASTM C 580)
Tensile Strength	1,150psi (7.9MPa)	(ASTM C 307)
Shrinkage	Linear Shrinkage 0.08%	(ASTM C 531)
Coefficient of Thermal Expansion	$38 \times 10^{-6}/^{\circ}\text{F}$ (68×10^{-6})	(ASTM C 531)
Water Absorption	0.09% over 24 hrs	(ASTM D 570)
Resistance to fire	Flash Point Part A: 48°F (9°C)	

APPLICATION INFORMATION

Coverage	0.33 ft ³ per neat unit (See Mixing Section for aggregate extensions)
Mixing Ratio	SikaEmaco®-6000 Unit One Part A will mix with 9 Part B Ratio: 1 part A to 9 Part B Part A: 0.5 gal (1.9 l) Part B: One 37 lb (16.7 kg) bag

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental,

toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

- Priming is recommended for porous concrete substrates. Sikafloor®-51 P Pronto and Sikafloor®-100 HD Pronto are the recommended products for priming for SikaEmaco®-6000 applications. Please consult Technical Service to discuss specific project

parameters.

- SikaEmaco®-6000: Non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder. Polymer concretes are used for repairing spalled, eroded, and deteriorated concrete surfaces. They are specified in environments that demand rapid cure, low maintenance, and high functional performance.
- Do not recoat while the material is still hot to the touch.
- Do not "slick off" material with straight MMA or solvents. This will interfere with the curing process.
- The material must be re-primed prior to over-coating with other SikaEmaco®-6000
- SikaEmaco®-6000 is not intended for use over bituminous-based substrates.
- Do not overwork the product. It will interfere with the curing process.
- Elevated temperatures will accelerate cure time.
- Sikafloor®-100 HD Pronto is already pre-blended into SikaEmaco®-6000 Part B.
- SikaEmaco®-6000 resins cure via an addition polymerization mechanism using the Sikafloor®-100 HD Pronto. Free radicals are formed and used to convert the liquid resin into a three-dimensional polymer network. This reaction proceeds easily below 50 °F (10 °C). Also, during the reaction, all hardener is consumed and the polymer is fully formed within a one-hour period. There is no potential for an excess of unreacted components or extended cure that is typical of other systems. When used correctly, the cure is thorough and consistent.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of the product data-sheet and SDS are being used.
- Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

SURFACE PREPARATION

1. Concrete surfaces must be dry and free of dust, dirt, oil, wax, curing compounds, and efflorescence. Laitance, and all other bondbreaking materials. The recommended method of preparation is shotblasting or gritblasting.
2. Use routine methods like sandblasting, chipping, and wire brushing. Obtain a minimum CSP of 5 as described by ICRI Guideline No. 310.2R. Do not use a method of surface preparation that will fracture the concrete. Verify the absence of microcracking or bruising in accordance with ICRI 310.2R

SikaEmaco®-6000 Surface Preparation

1. The concrete surface must be dry with a maximum of 5% moisture content. Damp and wet surfaces may be dried with artificial heat if the concrete will remain dry when the heat source is removed (i.e., the concrete must not be saturated with moisture).

2. Conduct adhesion tests with the polymer system to ensure proper preparation and good bond strength. Adhesion tests should exhibit failure in the concrete, not at the interface. Concrete failure must be greater than 200 psi (1.4 MPa).
3. Patch perimeter must be saw-cut to 1/4" as materials cannot be feather-edged.

SURFACE PREPARATION

Priming

Prime all concrete substrates with Sikafloor®-51 P Pronto Primer at 100 ft²/gallon. Mix 1 gallon of Sikafloor®-51 P Pronto Primer with the appropriate amount of Sikalastic®-918 FS powder hardener (see Sikafloor®-51 P Pronto Primer data sheet for Mixing instructions) and apply immediately. Allow to fully cure prior to placing SikaEmaco®-6000 Polymer Concrete.

MIXING

Aggregate

Extension

Repair Thickness in (mm)	Extension % by Weight	Aggregate Grain Size	lbs of Aggregate	Square Feet	Cubic Feet
1/8 (3.2)	-	-	-	29.3	0.30
1/4 (6.4)	-	-	-	14.6	0.30
1/2 (12.7)	10	1/16" to 1/8"	4	7.9	0.33
3/4 (19)	25	1/16" to 1/8"	10	5.9	0.37
1 (25.4)	50	3/16" to 3/8"	20	5.4	0.45
1-1/2 (38)	75	3/16" to 3/8"	30	4.2	0.52
2+ (50.8)	100	1/4" to 3/4"	40	3.5	0.59

Mixing Mortar

1. Mix SikaEmaco®-6000 in 5-gallon pails with a mixing blade or in concrete drum mixers. Measure out no more than 1/2 gallon of Part A per 37 lb bag of Part B.
2. Add Part A to the container followed by Part B and mix thoroughly for 30–60 seconds to obtain a mortar consistency. When extending, add aggregate as required (contact SikaTechnical Service for proper aggregate extension technique).
3. SikaEmaco®-6000 can be used in any thickness over 1/2" (12.7 mm) when extended with selected washed and dried aggregate. Aggregate is added after Part A and Part B are blended.

APPLICATION

Mortar Application

1. Finish the patch or repair using standard concrete finishing methods. For larger, deeper, and vertical repairs, polyethylene or plastic laminate-lined forms may be required.
2. For small, shallow repairs, use a trowel to spread and smooth the SikaEmaco®-6000. Keep the trowel flat and do NOT overwork the mortar, as improper surface cure will result. The product completely cures and is traffic-

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ready within one hour.

3. The minimum application thickness for SikaEmaco®-6000 is 1/8" (3.18 mm). Applications over 1/2" (12.7 mm) thick must be extended. Washed and dried pea gravel or coarse aggregate is used to extend the mortar mix. The largest aggregate size should not exceed 1/3 the depth of the patch (contact Sika Technical Service for proper aggregate extension technique). Never use any extender aggregate less than 1/16" (1.6 mm) with SikaEmaco®-6000.

Anchor Bolts

Holes must be primed prior to the addition of polymer mortar. Bolts must be rust-free and preferably galvanized. Other types of metal plating should be tested for compatibility with Sikafloor®-51 P Pronto and SikaEmaco®-6000 prior to use.

Joint Headers

SikaEmaco®-6000 is well-suited for header repairs to armored joints, strip joint systems, and other similar applications. For retrofit of existing headers, remove all existing header material and any damaged and spalled concrete. Edges should be saw cut to 1/4" (6.4 mm). All surfaces must be properly primed and allowed to cure prior to accepting the polymer concrete. For new construction, the concrete should be cut back 4–8" from the joint and 2–4" depth depending on design requirements.

CLEANING OF TOOLS

Clean tools as needed with inhibited MMA, acetone, ethyl acetate or similar solvents.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the

current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs.

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