

Sika MVA for Concrete and CMU

Section – 04 43 13.16 or 04 70 00

Weather resistant surfacing system incorporating Parex WeatherSeal Spray & Roll-On air/water-resistive barrier, SikaWall-1000 MaxGrip Veneer Adhesive and adhered veneer finish.

INTRODUCTION

This specification refers to application of the Sika MVA for Concrete and CMU.

DESIGN RESPONSIBILITY

It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. Sika Corporation US (herein referred to as "Sika") has prepared guidelines in the form of specifications, typical application details, and product bulletins to facilitate the design process only. Sika is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings or the like, whether based upon the information provided by Sika or otherwise, or for any changes which the purchasers, specifiers, designers or their appointed representatives may make Sika published comments. Local building code may impose certain restrictions that would limit the height that the system can be placed. Consult the authority having jurisdiction (AHJ) for the project to ensure local requirements are satisfied.

DESIGNING AND DETAILING A SIKa MVA FOR CONCRETE AND CMU

General: The system shall be installed in strict accordance with current recommended published details and product specifications from the system's manufacturer.

A. Substrate Systems:

1. Acceptable substrates are concrete masonry units (excluding fluted block; split faced block should be assessed on project by project basis) brick and precast and cast-in-place concrete.
2. Painted and otherwise coated surfaces should be inspected and prepared before application. The applicator shall verify that the proposed substrate is acceptable prior to the Sika MVA for Concrete and CMU installation. Perform field adhesion tests as required.

B. System Joints

1. It is the sole responsibility of the project design team, including the architect, engineer, etc., to ultimately determine specific expansion joint placement, width and design. Detail specific locations in construction drawings.
2. Sealant joints are required at all penetrations through the Sika System.
3. Sealant shall be acceptable for use with the specified adhered veneer, as determined by the project designer.

C. Grade Condition: The Sika MVA for Concrete and CMU application is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure. Per NCMS/MSV guide for installation of adhered manufactured stone veneer - maintain a 2" (51 mm) clearance from grade or ½" (13 mm) from a paved surface provided that frost heave of adjacent surfaces is taken into consideration.

TECHNICAL INFORMATION

Consult Sika Facades' Technical Services Department for technical questions concerning the application. Consult the Sika website, usa.sika.com, for additional information about products, systems, and updated literature.

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PART 1 GENERAL

NOTE TO SPECIFIER: Items in blue/underlined indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized.

1.01 SECTION INCLUDES

- A. Sika products are listed in this specification to establish a standard of quality. Any substitutions to this specification shall be submitted to and receive approval from the Architect at least 10 days before bidding. Proof of equality shall be borne by the submitter.
- B. Sika MVA for Concrete and CMU: consisting of PAREX WEATHERSEAL SPRAY & ROLL-ON air/water-resistive barrier and SIKAWALL-1000 MAXGRIP VENEER ADHESIVE.

1.02 RELATED SECTIONS

- A. Products installed, but not supplied under this section: substrate, flashing and sealant.

1.03 SUBMITTALS

- A. Submit under provisions of Section [\[01 33 00\] \[x\]](#).
- B. Product Data: Provide data on Sika MVA for Concrete and CMU materials, product characteristics, performance criteria, limitations and durability.
- C. Certificate: System manufacturer's approval of applicator.
- D. Sealant: Sealant manufacturer's certificate of compliance with ASTM C1382.
- E. System manufacturer's current specifications, typical details, system overview and related product literature which indicate preparation required, storage, installation techniques and jointing requirements.

1.04 QUALITY ASSURANCE

- A. Manufacturer: More than 10 years in the industry, with more than 1000 completed projects.
- B. Applicator: Approved by Sika in performing work of this section.
- C. Regulatory Requirements: Conform to applicable code requirements resurfacing system.
- D. Field Samples:
 - 1. Provide under provisions of Section [\[01 43 36\]](#) [\[01 43 39\]](#).
 - 2. Prepare each sample panel using the same tools and techniques to be used for the actual application.
 - 3. Locate sample panel where directed.
 - 4. Accepted sample panel [\[may\]](#) [\[may not\]](#) remain as part of the work.
- E. Testing:
 - 1. PAREX WEATHERSEAL SPRAY & ROLL-ON:

TEST	METHOD	CRITERIA	RESULTS
Accelerated Weathering	AC 212	25 Cycles followed by Hydrostatic Pressure Test: No water penetration on the plane of the exterior facing side of the substrate.	Pass: no water penetration
Air Infiltration	ASTM E2178	Calculated flow Rate at 75 Pa (1.57 lb/ft2, 0.3 in H2O) = < 0.02 L/m2*s (< 0.004 cfm/ft2)	< .00001 L/m2*s (0.00001 cfm/ft2) at 75 Pa (1.57 lb/ft2, 0.3 in H2O)
Air Leakage of Air Barrier Assemblies	ASTM E2357	Pass < 0.2 L / s·m2 at 75 Pa) (< 0.04 cfm / ft2 at 1.57 psf)	Pass
Air Leakage	ASTM E283	No Criteria	< 0.004 cfm/ft2
Elongation	ASTM D412	No Criteria	360%

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Flexibility	ASTM D522	No Criteria	No Cracking at 1/8" (3 mm)
Freeze-Thaw Resistance	ASTM E 2485	10 Cycles	Pass – No Deleterious Effects
Hydrostatic Pressure Test	AATCC 127 (Water Column)	Resist 21.6 in (55 cm) water for 5 hours before and after aging	Pass: no water penetration
Nail Seal ability, Head of Water	ASTM D1970	No Criteria	Pass 5 inches of water
Evaluation of Fire Propagation	NFPA 285	In Accordance with IBC Chapter 26	Meets requirements for use on all Types of construction
Radiant heat exposure	NFPA 268	In Accordance with IBC Chapter 26	No ignition upon 20-minute radiant heat exposure at 1.25 w/cm2.
Pull off Strength	ASTM D 4541	No Water Penetration	Pass - no water penetration
Racking	ASTM E72	Deflection at 1/8 in (3.2 mm)	Pass -No cracking at field, joints or flashing connection
Structural Loading	ASTM E1233 Procedure A	10 Cycles @ 80% design loads	Pass -No cracking at field, joints or flashing connection
Restrained Environmental	ICC ES AC 212 / ASTM E2570	5 Cycles of wetting and drying	Pass -No cracking at field, joints or flashing connection
Surface Burning Characteristics	ASTM E84	ICC and ASTM E2568 Flame Spread <25 Smoke Developed <450	Flame Spread =0 Smoke Developed =0
Tensile Bond Strength	ASTM E 2134/ ASTM C 297	Minimum 15 psi (104 kPa)	Pass all listed substrates and flashing materials
Water Resistance	ASTM D 2247	14 Days	Pass – No Deleterious Effects.
Water Penetration	ASTM E331	2.86 psf (137 Pa) for 15 minutes	Pass 25.4 psf (1216 Pa) for 165 minutes
Water Penetration	ASTM E331	Tested after Structural Loading, Racking and Restrained Environmental Cycling at 2.86 psf (137 Pa) for 15 minutes	No Water Penetration
Water vapor transmission	ASTM E96 Procedure B	Vapor Permeable	12.0 perms
Weathering	ICC ES AC 212 / ASTM E2570	210 hours of UV Exposure, 25 cycles of accelerated weathering, 21.6 in (549 mm) water column for 5 hours	Pass
Wind Driven Rain	F.S. TT-C-555B	No Criteria	Pass
VOC	EPA Reference Test Method 24	US EPA, South Coast AQMD and Greenseal Standard	10 g/L

2. SIKAWALL-1000 MAXGRIP VENEER ADHESIVE:

TEST	METHOD	CRITERIA	RESULTS
Compressive Strength	ASTM C 109	N/A	4000 psi
Freeze-Thaw	ASTM C 666	Procedure A- cycles rapid freezing and thawing in water. 40°F - 0°F - 40°F in not less than 2 hours and not more than 5 hours; modified using full IVS composite in place of concrete beam	> 100 cycles, no failure of MaxGrip
Shear Strength	ANSI 118.4	28 days ≥ 200 psi After 7 day water immersion ≥ 150 psi	565 psi at 28 days 306 psi after 7 day water immersion

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Shear Strength	ANSI A118.15	7 days ≥ 300 psi 28 days ≥ 400 psi After 7 days water immersion ≥ 200 psi	487 psi at 7 days 565 psi at 28 days 306 psi after 7 day water immersion
Shear Bond	ASTM C482	Minimum 50 psi	130 psi - Directly to molded cement mortar bed specified in ASTM

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products under provisions of Section [01 65 00] [01 66 00] [].
- B. Deliver Sika materials in original unopened packages with manufacturer's labels intact.
- C. Protect Sika materials during transportation and installation to avoid physical damage.
- D. Store Sika materials in a cool, dry place protected from freezing. Store at no less than 40°F/4°C .
- E. Store SikaWall Sheathing Fabric in a cool, dry place protected from exposure to moisture.

1.06 PROJECT/SITE CONDITIONS

- A. Do not apply SIKAWALL-1000 MAXGRIP VENEER ADHESIVE in ambient temperatures below 40°F/4°. Provide properly vented, supplementary heat during installation and drying period when temperatures less than 40°F/4°C prevail.
- B. Do not apply materials to frozen surfaces.
- C. Maintain ambient temperature at or above 40°F/4°C during and at least 24 hours after material installation and until dry.

1.07 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule installation of Sika MVA for Concrete and CMU with related work of other sections.
- B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the existing system.
- C. Coordinate and schedule installation of windows, doors, A/C units, air seals etc. if being removed and replaced.

1.08 WARRANTY

- A. Provide Sika standard warranty for the Sika MVA for Concrete and CMU installations under provisions of Section [01 07 00].
- B. Comply with Sika application instructions and notification procedures to assure qualification for warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Sika MVA for Concrete and CMU manufactured by Sika Corporation US.

2.02 MATERIALS

(NOTE TO SPECIFIER: Items in blue/underlined indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized. Contact Sika Facades' Technical Service Department for further assistance.)

A. Air/water-Resistive Barrier Components:

- 1. Air/Water-Resistive Barrier:
 - a. PAREX WEATHERSEAL SPRAY & ROLL-ON: A one-component fluid-applied vapor permeable air/water-resistive barrier.
- 2. Rough Opening and Joint Treatment: (Required for rough openings if wood blocking is present)
 - a. SIKAWALL-9000 SHEATHING FABRIC: A spun-bonded non-woven reinforced polyester web for use with PAREX WEATHERSEAL SPRAY & ROLL-ON fluid applied air/weather-resistive barriers.

- B. **SIKAWALL-1000 MAXGRIP VENEER ADHESIVE:** A high-strength specially formulated adhesive used to fasten manufactured stone, ceramic tile and thin brick.

C. Adhered Veneer (By Others):

- 1. Manufactured Stone Veneer Units: shall comply with ICC-ES AC51 Acceptance Criteria Adhered Manufactured Stone Masonry Veneer or ASTM C1670 Standard Specification for Adhered Manufactured

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Stone Masonry Veneer Units.

2. Thin Brick Veneer Units: shall comply with ASTM C1088 Standard Specification for Thin Veneer Brick Units Made from Clay or Shale.
3. Tile: shall comply with requirements of the Tile Council of North America/ANSI A137.1 Standard for Ceramic Tile and other applicable TCNA standards.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive Sika MVA for Concrete and CMU and verify that substrate and adjacent materials are dry, clean, cured, sound and free of releasing agents, paint, or other residue or coatings. Verify substrate surface is flat, free of fins or planar irregularities greater than 1/4" in 10' (6.4 mm in 3 m).
- B. Ensure adhesion tests meet the requirements listed in the *Basics of Conducting Adhesion Testing* technical bulletin.
- C. Fill large voids and irregularities with appropriate parging or cement mortar materials.
- D. Control/expansion joint type and placement shall be the responsibility of the architect/engineer and substrate manufacturer.
- E. Unsatisfactory conditions shall be reported to the general contractor and corrected before application of the Sika MVA for Concrete and CMU.

3.02 PREPARATION

- A. All surfaces to receive Sika MVA for Concrete and CMU components must be clean, dry and free of airborne contaminants.
- B. Protect all surrounding areas and surfaces from damage and staining during application of Sika MVA for Concrete and CMU.
- C. Protect finished work at end of each day to prevent water penetration.

3.03 MIXING

General: No additives are permitted unless specified in product mixing instructions. Close containers when not in use. Prepare in a container that is clean and free of foreign substances. Do not use a container which has contained or been cleaned with a petroleum-based product. Clean tools with soap and water immediately after use.

A. Air/Water-Resistive Barriers:

1. PAREX WEATHERSEAL SPRAY & ROLL-ON: Mix with a clean, rust-free paddle and drill until thoroughly blended. Do not add water.

B. SIKAWALL-1000 MAXGRIP VENEER ADHESIVE:

1. Skim Coat: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. 1.0 - 1.5 gallons (3.8 - 5.7 liters) of clean, potable water to a pail. Add a full bag of SIKAWALL-1000 MAXGRIP VENEER ADHESIVE to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Let stand for 5 to 10 minutes, then remix/retemper for 1 minute before use.
2. Light Weight Adhered Veneer such as Thick Brick: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. Add 1.0 - 1.5 gallons (3.8 - 5.7 liters) of clean, potable water to a pail. Add a full bag of SIKAWALL-1000 MAXGRIP VENEER ADHESIVE to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Additional water may be added to adjust workability, do not exceed 1.25 gallons. Let stand for 5 to 10 minutes, then remix / retemper for 1 minute before use. The mixed material should have a thick putty consistency and not slide off the trowel when held vertically.
3. Heavy Stone and Tile: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. Add 0.75 - 1.0 gallons (2.8 - 3.8 liters) of clean, potable water to a pail. Add a full bag of SIKAWALL-1000 MAXGRIP VENEER ADHESIVE to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Additional water may be added to adjust workability, do not exceed 1 gallon. Let stand for 5 to 10 minutes, then remix / retemper for

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1 minute before use. The mixed material should have a thick putty consistency and not slide off the trowel when held vertically.

3.04 APPLICATION

A. PAREX WEATHERSEAL SPRAY & ROLL-ON:

1. Windows/openings must be protected, and the air/water-resistive barrier applied in accordance with published PAREX WEATHERSEAL SPRAY & ROLL-ON Product Data Sheet and details.
2. Substrate shall be dry, clean, sound, and free of releasing agents, paint, or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than ¼" in 10' (6.4 mm in 3 m).
3. Unsatisfactory conditions shall be corrected before application of the PAREX WEATHERSEAL SPRAY & ROLL-ON air/water-resistive barrier.
4. Apply the SIKAWALL-9000 SHEATHING FABRIC (as applicable) and PAREX WEATHERSEAL SPRAY & ROLL-ON air/water-resistive barrier in accordance with the PAREX WEATHERSEAL SPRAY & ROLL-ON air/water-resistive barrier product data sheet.
5. Installed materials shall be checked before continuing system application.

B. SIKAWALL-1000 MAXGRIP VENEER ADHESIVE:

Note: SIKAWALL-1000 MAXGRIP VENEER ADHESIVE shall be applied and veneer installed such that the SIKAWALL-1000 MAXGRIP VENEER ADHESIVE is free of voids. Allow SIKAWALL-1000 MAXGRIP VENEER ADHESIVE to cure for 24 hours before applying pointing mortar.

Prior to installing the adhered veneer, apply SIKAWALL-1000 MAXGRIP VENEER ADHESIVE as a skim coat over the PAREX WEATHERSEAL SPRAY & ROLL-ON coated substrate at approximately 1/16" (1.6mm) thick. Apply to an area that can be covered with adhered veneer before the skim coat dries. Allow skim coat layer to set for 3-5 minutes, then proceed with adhering the selected veneer.

1. Thin brick veneer: Spread SIKAWALL-1000 MAXGRIP VENEER ADHESIVE onto the back of bricks in a continuous layer nominally 3/16" to ¼" (5 - 6mm) thick and press bricks firmly into place on the substrate.
2. Stone veneer: Apply SIKAWALL-1000 MAXGRIP VENEER ADHESIVE to the back of clean stone veneer in a continuous layer nominally ¼" to 3/8" (6 - 9mm) thick. Press firmly in place with a twisting movement until excess material exudes from the sides of the unit. Remove excess SIKAWALL-1000 MAXGRIP VENEER ADHESIVE between units.
3. Tile: Installation should proceed in accordance with ANSI A 108.5 (the type and size of the tile will dictate adhesive application.)

3.05 CLEANING

- A. Clean work under provisions of Section [\[01 74 00\] \[x\]](#).
- B. Clean adjacent surfaces and remove excess material, droppings, and debris.

3.06 PROTECTION

- A. Protect Sika materials from rain and temperatures below 40°F (4°C) for 24 hours or until dry.
- B. Protect installed construction under provisions of Section [\[01 76 00\] \[\]](#).

END OF SECTION

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WARRANTY

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 Facades' Technical Service Department at 1-800-589-1336. 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. NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at <https://usa.sika.com/>.

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Issued September 2026

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