**Senerflex Vulcan NC System**

*Water-drainage polymer-based EIFS incorporating mineral wool insulation, vertical drainage channels*

*and Senergy Senershield air/water-resistive barrier.*

**INTRODUCTION**

This specification has been assembled to enable the design professional to select or delete sections to suit the project requirements and is intended to be used in conjunction with Senergy® typical details, product bulletins, technical bulletins, etc.

**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. The Senergy® brand of Sika Canada, Inc. (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 to Sika published comments.

**Designing and Detailing a Senerflex Vulcan NC Wall System**

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

1. **Wind Load**
2. Maximum deflection not to exceed L/240 under positive or negative design loads.
3. Design for wind load in conformance with local code requirements.
4. **Substrate Systems**
5. Acceptable substrates are: PermaBase® Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior); poured concrete/unit masonry; ASTM C1177 type sheathings, including, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, and DensGlass® exterior sheathing DensElement (sheathing only); gypsum sheathing (ASTM C79/C1396); Huber Zip (sheathing only) Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB; fire treated wood sheathing: Pyro-Guard® and Dricon® plywood and FlameBlock® OSB.
6. Painted and otherwise coated surfaces of brick, unit masonry, and concrete shall be inspected and prepared as approved by Sika before application. The applicator shall verify that the proposed substrate is acceptable prior to the Senerflex Vulcan NC System installation.
7. The substrate systems shall be engineered with regard to structural performance by others.
8. **Moisture Control**
9. Prevent the accumulation of water behind the EIFS, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
	1. Provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, at the base of the wall and anywhere else required by local code or design at the time of installation.
	2. Air Leakage Prevention: provide continuity of air barrier system at foundation, roof, windows, doors and other penetrations through the system with connecting and compatible air barrier components to minimize condensation and leakage caused by air movement.]
	3. Vapor Diffusion and Condensation: perform a dew point analysis of the wall assembly to determine the potential for accumulation of moisture in the wall assembly as a result of water vapor diffusion and condensation. Adjust insulation thickness and/or other wall assembly components accordingly to minimize the risk of condensation. Avoid the use of vapor retarders on the interior side of the wall in warm, humid climates.
10. **System Joints**
11. Typical locations for system expansion joints are at building expansion joints, at prefabricated panel joints, floor lines of wood frame construction or where slip tracks are used in steel frame construction, where substrates change and where structural movement is anticipated. 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.
12. Sealant joints are required at all penetrations through the Senerflex Vulcan NC (windows, doors, etc.)
13. Specify compatible closed cell backer rod and acceptable sealant that has been evaluated in accordance with ASTM C 1382, “Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish System (EIFS) Joints,” and that meets minimum 50% elongation after conditioning.
14. The system must be properly terminated (back wrapped a minimum of 62 mm (2 1/2”), properly sealed, flashed) at all penetrations, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.
15. **Grade Condition**
16. The Senerflex Vulcan NC Wall System is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure. Ensure a minimum 152 mm (6”) clearance above grade or as required by code, a minimum 25 mm (1”) clearance above finished grade (sidewalk/concrete flatwork).
17. **Trim, Projecting Architectural Features**

**(NOTE TO SPECIFIER: Installation of the Senergy Wall System outside the slope guidelines referenced in this specification may still qualify for a standard warranty; however,** **low sloping EIFS conditions are subject to extreme heat, increased maintenance and premature deterioration of the system shall be expected and any deleterious effects caused by the lack of slope will not be the responsibility of Sika. Senergy Wall Systems are designed and tested to be applied to vertical surfaces. The design professional has the option to build according to his/her project needs. The design professional must also consider geography, climate, building orientation, wall orientation and adjacent building components when designing with EIFS. The slope guidelines referenced below are provided to assist the owner and/or design professional. Final design of any building is the responsibility of the design professional.)**

1. Minimum slope for all projections shall be 6:12 (27º) with a maximum length of 30.5 cm (12”) [e.g. 15 cm in 30.5 cm (6” in 12”)]. Increase slope for northern climates to prevent accumulation of ice/snow on the surface.
2. Mineral wool feature bands are applied over the base layer of mineral wool insulation and attached with Senergy adhesive and Wind-Lock ULP-302 plates and fasteners, into supporting structure. Reinforced base coat shall be applied continuously across the feature band. Thickness of the bands will be limited by available fastener lengths.
3. **Coordination with other trades**
4. Evaluate adjacent materials such as windows, doors, etc. for conformance to manufacturer’s details. Adjacent trades shall provide scaled shop drawings for review.
5. Air Seals at any joints/gaps between adjoining components (penetrations, etc.) are of primary importance to maintain continuity of an air barrier system and must be considered by the design professional in the overall wall assembly design. Install air seals between the primary air/water resistive barrier and other wall components (penetrations, etc.) in order to maintain continuity of an air barrier system.
6. Provide site grading such that Senerflex Vulcan NC System terminates a minimum of 152 mm (6”) above finished grade or as required by code.
7. Provide protection of rough openings in accordance with Senergy Senershield product data sheet and details before installing windows, doors, and other penetrations through the wall.
8. Install copings and sealant immediately after installation of the Senerflex Vulcan NC System and when Senergy coatings are completely dry.

**TECHNICAL INFORMATION**

Consult Sika Facades’ Technical Services Department for specific recommendations concerning all other applications. Consult the Senergy website, usa.sika.com/senergy, for additional information about products, systems and for updated literature.

**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. **SECTION INCLUDES**
	2. Refer to all project drawings and other sections of this specification to determine the type and extent of work therein affecting the work of this section, whether or not such work is specifically mentioned herein.
	3. Senerflex Vulcan NC System: Composite wall Exterior Insulation and Finish System consisting of Senergy air/water-resistive barrier, Senergy Alpha Dry adhesive/base coat, approved mineral wool insulation, Senergy Alpha Dry base coat, SikaWall reinforcing mesh and Senergy finish coat.
	4. Senergy 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.
	5. The system type shall be Senerflex Vulcan NC System as manufactured by Sika Canada, Inc, Pointe-Claire, QC.
	6. **RELATED SECTIONS**
	7. Section 03 00 00 Concrete substrate
	8. Section 04 00 00 Masonry substrate
	9. Section 05 40 00 Cold-formed metal framing
	10. Section 06 11 00 Wood framing
	11. Section 06 16 00 Sheathing
	12. Section 07 27 00 Air barriers
	13. Section 07 62 00 Sheet metal flashing and trim
	14. Section 07 65 00 Flexible flashing
	15. Section 07 90 00 Joint protection
	16. Section 08 00 00 Openings
	17. Section 09 22 00 Supports for plaster and gypsum board
	18. Section 09 22 16 Non-structural metal framing
	19. Section 09 29 00 Gypsum board
	20. **DEFINITIONS**
	21. Exterior Insulation and Finish System: Exterior assembly comprised of Adhesive, rigid insulation, Base Coat, Reinforcing Mesh, and Finish Coat.
	22. Class PB Systems: A class of EIFS where the base coat varies in thickness depending upon the number of layers or thickness of reinforcing mesh. The reinforcing material is glass fiber mesh, which is embedded into the base coat at the time of installation. The base coat shall be applied so as to achieve reinforcing mesh embedment with no reinforcing mesh color visible, nominal thickness of 1.6 mm (1/16”). Protective finish coats, of various thicknesses, in a variety of textures and colors, are applied over the base coat.
	23. **SUBMITTALS**
	24. Submit under provisions of Section [01 33 00]
	25. Product Data: Provide data on Senerflex Vulcan NC System materials, product characteristics, performance criteria, limitations and durability.
	26. Samples: Submit [two] x [millimeter] [inch] size samples of Senerflex Vulcan NC System illustrating finish coat color and texture range.
	27. Certificate: System manufacturer’s approval of applicator.
	28. Sealant: Sealant manufacturer’s certificate of compliance with ASTM C1382.
	29. System manufacturer’s current specifications, typical details, system overview and related product literature which indicate preparation required, storage, installation techniques, jointing requirements and finishing techniques.
	30. **QUALITY ASSURANCE**
	31. Manufacturer: More than 10 years in the EIFS industry, with more than 1000 completed EIFS projects.
	32. Applicator: Approved by Sika in performing work of this section.
	33. Regulatory Requirements: Conform to applicable code requirements for EIFS.
	34. Field Samples
1. Provide under provisions of Section [01 43 36] [01 43 39].
2. Construct one field sample panel for each color and texture, [x] [meters] [feet] in size of system materials illustrating method of attachment, surface Finish color and texture.
3. Prepare each sample panel using the same tools and techniques to be used for the actual application.
4. Locate sample panel where directed.
5. Accepted sample panel [may] [may not] remain as part of the work.
6. Field samples shall be comprised of all wall assembly components including substrate, Senergy air/water-resistive barrier, Alpha Dry adhesive/base coat, approved insulation board, SikaWall reinforcing mesh, SikaWall primer (if specified), Senergy finish coat, and typical sealant/flashing conditions.
	1. **DELIVERY, STORAGE AND HANDLING**
		1. Deliver, store and handle products under provisions of Section [01 65 00] [01 66 00] [ ].
		2. Deliver Sika materials in original unopened packages with manufacturer’s labels intact.
		3. Protect Sika materials during transportation and installation to avoid physical damage.
		4. Store Sika materials in a cool, dry place protected from freezing. Store at no less than 4°C/40°F (10°C/50°F GRANITE AND STONE finish).
		5. Store MAXFLASH at a minimum of 4°C/40°F. In cold weather, keep containers at room temperature for at least 24 hours before using.
		6. Store insulation boards flat and protected from direct sunlight and extreme heat.
		7. Store Reinforcing Mesh, SHEATHING FABRIC and FLASH SEAL NP flexible flashing in a cool, dry place protected from exposure to moisture.
	2. **PROJECT/SITE CONDITIONS**
7. Do not apply Sika material in ambient temperatures below 4°C/40°F (10°C/50°F for GRANITE AND STONE Finish). Provide properly vented, supplementary heat during installation and drying period when temperatures less than 4°C/40°F (50°F/10°C for GRANITE AND STONE Finish) prevail. Do not apply in ambient temperature above 38°C (100°F) or surface temperature above 49°C (120°F).
8. Do not apply materials to frozen surfaces.
9. Maintain ambient temperature at or above 4°C/40°F (10°C/50°F for GRANITE AND STONE Finish) during and at least 24 hours after material installation and until dry.
10. Under average conditions [21 °C (70 °F), 50% Relative Humidity] finish will be dry within 24 hours. Drying time is dependent on humidity, air temperature, sun exposure, surface conditions and finish thickness. Lower temperature, higher humidity and application in shaded areas will extend drying time. Protect finish from rain or other precipitation and temperatures less than 4°C/40°F for a minimum of 24 hours or until dry.
	1. **SEQUENCING AND SCHEDULING**
	2. Coordinate and schedule installation of Senerflex Vulcan NC System with related work of other sections.
	3. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.

**1.09 WARRANTY**

1. Provide Sika standard warranty for Senerflex Vulcan NC Wall System installations under provisions of Section [01 70 00].
2. Comply with Sika Facades notification procedures to assure qualification for warranty.

**PART 2 - PRODUCTS**

* 1. **MANUFACTURERS**
1. Senergy Senerflex Vulcan NC Wall System (Class PB System) manufactured by Sika Canada, Inc.
	1. **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.**

1. **Air/Water-Resistive Barrier Components:**
	* + 1. Air/Water-Resistive Barrier: ***(Required, Select a, b or c)***
2. [SENERSHIELD-R](http://www.senergy.basf.com/en/products/Air_Water_ResistiveBarriersDrainage/Pages/Senershield-R.aspx): A one-component fluid-applied vapor permeable air/water-resistive barrier.
3. SENERSHIELD-RS: A one-component fluid-applied vapor permeable air/water-resistive barrier for use with airless spray equipment.
4. SENERSHIELD-VB: A one-component fluid-applied vapor impermeable air/water-resistive barrier.
	* + 1. Rough Opening and Joint Treatment: **(Required, Select a or b)**
				1. SIKAWALL SHEATHING FABRIC: A spun-bonded non-woven reinforced polyester web for use with Senergy fluid applied air/weather-resistive barriers.
				2. SIKAWALL MAXFLASH: A one-component elastomeric material for use as a flexible flashing membrane.
			2. SIKAWALL FLASH SEAL NP Transitional Membrane / Expansion Joint Flashing: A 32-mil thick self-adhering and self-sealing composite membrane of polyester fabric and butyl adhesive. Compatible with Senergy liquid air/weather resistive barriers.
5. **Adhesive/Base Coat:**
	* + - 1. ALPHA DRY Base Coat: A dry-mix polymer adhesive and base coat containing Portland cement and requiring only water for mixing.
6. **Water:** Clean and potable without foreign matter.
7. **Mineral Wool Insulation Board: (Required, Select One or More)**
8. Lamella strip boards, 152 x 1220 mm (6 in x 48 in), with a nominal density of 100 kg/m3 (6.2 lb./ft3), tested per CAN/ULC S114 (ASTM E136) – noncombustible; CAN/ULC S102 (ASTM E84) – flame spread less than 25.
9. Slab type mineral wool, CAN/ULC S702 Type 1 / ASTM C612 Type IVA; minimum density of 128 kg/m3 (8.0 lb/ft3), minimum compressive strength of 25 kPa (522 psf) @ 10% compression per ASTM C165; Flame Spread <25, Smoke Developed < 450 per CAN/ULC S102 (ASTM E84); Non-combustible per CAN/ULC S114 (ASTM E136); R-value @ 24°C (75°F) = 4.0 per inch. Thickness as indicated on drawings [minimum 38 mm (1.5"), maximum 102 mm (4”)]. Size: 0.6 m x 1.22 m (2' x 4'). Length, width and thickness: tolerance of plus or minus 12.7 mm (½”) length, 6.4 mm (¼”) width and 3.2 mm (1/8”) thickness. ROCKWOOL Frontrock™ Mono Density or equivalent.
10. **Mechanical Fasteners:** ULP-302 by Wind-Lock Corp high density plastic washers, 44 mm (1 ¾”) in diameter, used in combination with corrosion resistant screws that are suitable for the substrate.
* Steel: minimum 10mm (3/8”) and 3 thread penetration of steel with threads engaged with steel.
* Wood: minimum 19mm (3/4”) penetration into wood framing.
* Masonry: minimum 25mm (1”) penetration.
1. **Reinforcing Mesh:** Balanced, open-weave glass, fiber reinforcing mesh, twisted multi-end strands treated for compatibility with Senergy Base Coats. ***(Required, Select One or More)***
2. FLEXGUARD 4: Standard weight, 4 oz.
3. SIKAWALL INTERMEDIATE 6: Medium weight, 6 oz.
4. SIKAWALL INTERMEDIATE 12: Intermediate weight, 12 oz.
5. SIKAWALL STRONG 15: Heavy weight, 15 oz. used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.
6. SIKAWALL ULTRA HI 20: Heavy weight, 20 oz. used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.
7. SIKAWALL CORNER MESH: Intermediate weight, pre-marked for easy bending, for reinforcing at exterior corners.
8. **SIKAWALL COLOR ADVANCE Coating (Optional):** A 100% acrylic-based coating. It is designed for spray, roller or brush-application over EIFS, for use in sealant joints over reinforced base coat or over finish coat with minimum change in finish texture or sheen.
9. **SIKAWALL TINTED PRIMER (Optional):** A 100% acrylic-based primer that helps alleviate shadowing and enhances performance of the Senergy Wall Systems. Color to closely match the selected Senergy Finish Coat color.
10. **Finish Coat: *(Required, Select One or More Finishes and Textures)***

**NOTE:** **Use of smooth/fine finish textures is not advised, however if desired to achieve design requirements, a large-scale mock-up is recommended.**

1. SENERFLEX Finish: 100% acrylic polymer finishes with advanced technology to improve long-term performance and dirt pick-up resistance; air cured, compatible with base coat; Senergy finish color [ ] as selected; finish texture:
2. CLASSIC: Has a medium “worm-holed” appearance which is achieved by the random aggregate sizes in the Finish. The “worm-holed” look can be circular, random, vertical or horizontal.
3. FINE: utilizes uniformly sized aggregates for a uniform, fine texture.
4. TEXTURE: can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
5. SAHARA: Provides a uniform, “pebble” appearance.
6. SENERFLEX TERSUS Finish: Modified acrylic-based finish with water repellent properties, compatible with base coat; Senergy Finish color [ ] as selected; finish texture:
7. CLASSIC: Has a medium “worm-holed” appearance which is achieved by the random aggregate sizes in the Finish. The “worm-holed” look can be circular, random, vertical or horizontal.
8. FINE: utilizes uniformly sized aggregates for a uniform, fine texture.
9. TEXTURE: can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
10. SAHARA: Provides a uniform, “pebble” appearance.
11. Specialty Finishes: 100% acrylic polymer finishes that can be hand-troweled to simulate stone or create a time-honored, mottled tone-on-tone look that achieves a soft and weathered patina over time.
12. SIKAWALL ENCAUSTO VERONA: Utilizes uniformly sized aggregate to achieve a free-formed, flat texture. It can be used to achieve a mottled look and unlimited tone on tone designs by combining multiple colors.
13. SIKAWALL METALLIC: Has a pearlescent appearance. It utilizes uniformly sized aggregates for a uniform fine texture.
14. SIKAWALL GRANITE AND STONE Finish: Is a factory-mixed, reflective stone finish consisting of colored aggregate and large black mica flakes in a 100% acrylic transparent binder that provides a classic granite or marble-like textured finished appearance.
15. SIKAWALL CHROMA Finish: 100% acrylic polymer-based finish with integrated high performance colorants for superior fade resistance, compatible with base coat; Senergy Finish color [ ] as selected; finish texture:
	1. F1.0: Utilizes uniformly sized aggregates for a uniformly fine texture.
	2. M1.5: Provides a uniform “pebble” appearance.
	3. R1.5: Has a medium “worm-holed” appearance which is achieved by the random aggregate sizes in the Finish. The “worm-holed” look can be circular, random, vertical or horizontal.
	4. **ACCESSORIES**
16. **Window/Door Drip Edge:** Rigid polyvinyl chloride (PVC), UV resistant for exterior use, with a drip edge, as furnished by Plastic Components, Inc. or equal. PVC accessories shall conform to ASTM D1784 and D4216; Sheet metal flashing conforming to ASTM A653.

**PART 3 - EXECUTION**

* 1. **EXAMINATION**
1. **Site Conditions:** Verify project site conditions under provisions of Section [01 00 00].
2. **Walls**

Substrates:

1. Acceptable substrates are: PermaBase® Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior); poured concrete/unit masonry; ASTM C1177 type sheathings, including, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, and DensGlass® exterior sheathing DensElement (sheathing only); gypsum sheathing (ASTM C79/C1396); Huber Zip (sheathing only) Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB; fire treated wood sheathing: Pyro-Guard® and Dricon® plywood and FlameBlock® OSB. Consult the Sika Facades’ Technical Services Department for all other applications.
2. Wall sheathing must be securely fastened per applicable building code and sheathing manufacturer’s requirements.
3. Examine surfaces to receive Senerflex Vulcan NC System and verify that substrate and adjacent materials are 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 6.4 mm in 3 m (1/4” in 10’).

Flashings:

* + 1. All flashings are by others and must be installed in accordance with specific manufacturer’s requirements. Where appropriate, end-dams must be provided.
		2. Openings must be flashed prior to window/door, HVAC, etc. installation. Refer Senergy’s Senershield published product data sheet and details for further information Windows and openings shall be flashed according to design and Building Code Requirements.
		3. Individual windows that are ganged to make multiple units require continuous head flashing and the joints between the units must be fully sealed.

Roof: Verify that all roof flashings have been installed in accordance with the guidelines set by the Asphalt Roofing Manufacturers Association (ARMA).

Kick-out flashing: Kick-out flashing must be installed where required. The kick-out flashing must be leak-proof and angled (min 100˚) to allow for proper drainage and water diversion.

1. Do not proceed until all unsatisfactory conditions have been corrected.
	1. **PREPARATION**
2. Protect all surrounding areas and surfaces from damage and staining during application of Senerflex Vulcan NC System.
3. **Finish:** Protect finished work at end of each day to prevent water penetration.
4. **Substrate preparation:** Prepare substrates in accordance with Senergy instructions.
	1. **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 and equipment with water immediately after use. Dried material can only be removed mechanically.

**NOTE TO SPECIFIER: Keep only the products in this section which were selected in Section 2.02. Delete those not to be utilized.**

1. **Air/Water-Resistive Barriers:**
	1. SENERSHIELD-R/RS/VB: Mix with a clean, rust-free paddle and drill until thoroughly blended. Do not add water.
2. **ALPHA DRY Base Coat:** Mix and prepare each bag in a 5-gallon (19-liter) pail. Fill the container with approximately 5.6-liters (1.5-gallons) of clean, potable water. Add base coat in small increments, mixing after each additional increment. Mix base coat and water with a clean, rust-free paddle and drill until thoroughly blended. Additional ALPHA DRY Base Coat or water may be added to adjust workability.
3. **SIKAWALL COLOR ADVANCE**: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
4. **SIKAWALL TINTED PRIMER**: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
5. **Finishes**
	1. SENERFLEX, SENERFLEX TERSUS, CHROMA, and ENCAUSTO VERONA Finish: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
	2. SIKAWALL GRANITE AND STONE Finish: Gently mix the contents of the pail for 1 minute using a low RPM 12mm (½”) drill equipped with a mixing paddle such as a Demand Twister or a Wind-Lock B-MEW, B-M1 or B-M9.
	3. **APPLICATION**
6. **Accessories:** Attach Window/Door Drip Edge level and per manufacturer’s instructions.

**NOTE TO SPECIFIER: Keep only the products in this section which were selected in Section 2.02. Delete those not to be utilized.**

1. **Air/Water-Resistive Barrier:**
2. All sheathing joints and windows/openings must be protected, and the air/water-resistive barrier applied in accordance with Senershield product data guide and details.
3. 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 6.4 mm in 3 m (¼" in 10').
4. Unsatisfactory conditions shall be corrected before application of the Senergy air/water-resistive barriers.
5. Apply SIKAWALL SHEATHING FABRIC and Senergy air/water-resistive barrier in accordance with the Senergy air/water-resistive barrier product bulletin.
6. Apply SIKAWALL MAXFLASH in accordance with the SIKAWALL MAXFLASH product bulletin.
7. Installed materials shall be checked before continuing system application.
8. Ensure SIKAWALL SHEATHING FABRIC and Senergy air/water-resistive barrier or SIKAWALL MAXFLASH overlaps the top flange of the flashing.
9. Installed materials shall be checked before continuing system application.
10. **Insulation Board:**
11. Lamella:
	1. Ensure fiber orientation is perpendicular to the substrate.
	2. Begin at base of wall with firm, temporary support or spacer.
	3. Apply lamella horizontally in a running bond pattern.
	4. Pre-cut lamella to fit openings and projections. Lamella must be a single piece around corners of openings. Stagger vertical joints and corners. Stagger lamella and sheathing board joints.
	5. Apply mixed ALPHA DRY Base Coat to entire surface of lamella using a stainless steel trowel with 13 mm x 13 mm (1/2”x 1/2”) notches spaced 50 mm (2”) apart. Ribbons of adhesive must be applied parallel to the 152 mm (6”) dimension of the lamella to ensure they are vertical when the lamella is applied to the substrate.
	6. Immediately set lamella into place and apply pressure over entire surface to ensure positive uniform contact and high initial grab. Do not slide lamella into place. Do not allow Base Coat to dry prior to installing.
	7. Abut all joints tightly and ensure overall flush level surface.
	8. Check adhesion periodically by removing lamella prior to set. Properly installed lamella will be difficult to remove, and ALPHA DRY adhesive will be adhered to both the Senershield and the lamella.
	9. Install 2 mechanical fasteners through lamella into the framing or structural substrate in each piece of insulation in the first course and every fourth course after
	10. Allow application of lamella to dry (normally 8 to 10 hours) prior to application of Base Coat/Reinforcing Mesh.
12. Slab Type Insulation:
	1. Begin at base of wall with firm, temporary support or spacer.
	2. Apply insulation board horizontally in a running bond pattern.
	3. Pre-cut insulation board to fit openings and projections. Insulation board must be a single piece around corners of openings. Stagger vertical joints and corners. Stagger insulation board and sheathing board joints.
	4. Apply mixed ALPHA DRY base coat to entire surface of insulation board using a stainless steel trowel with 13 mm x 13 mm (1/2”x 1/2”) notches spaced 50 mm (2”) apart. Ribbons of adhesive must be applied parallel to the 610 mm (24”) dimension of the insulation board to ensure they are vertical when the insulation board is applied to the substrate.
	5. Immediately set insulation board into place and apply pressure over entire surface to ensure positive uniform contact and high initial grab. Do not slide insulation board into place. Do not allow base coat to dry prior to installing.
	6. Abut all joints tightly and ensure overall flush level surface.
	7. Check adhesion periodically by removing insulation board prior to set. Properly installed insulation board will be difficult to remove, and ALPHA DRY adhesive/base coat will be adhered to both the Senergy air/water-resistive barrier and the insulation board.
	8. Install mechanical fasteners through insulation board after adhesive application and after reinforced base coat application.
	9. Install mechanical fasteners at not more than 300 mm (12”) o.c. vertically and 400 mm (16”) o.c. horizontally, or at a spacing equivalent to the spacing of building framing members.
	10. Install fasteners along termination points within 150 mm (6") of the edge and spaced not more than 300 mm (12”) o.c.
	11. Where installation occurs over frame construction, ensure fasteners are installed into the framing members.
	12. Install 50% of the fasteners after adhesive application of the insulation board and the remaining 50% of the fasteners after the installation of the initial reinforced base coat.
	13. Install fasteners to a depth to leave the anchor plate flush or slightly recessed from the surface of the insulation, maximum recess of 1.6 mm (1/16”).
13. **Senergy Base Coat/Reinforcing Mesh:** Base coat shall be applied to achieve reinforcing mesh embedment with no reinforcing mesh color visible.

**NOTE TO SPECIFIER: Indicate on drawings the required locations of standard, medium, high or ultra-high impact reinforcing mesh.**

1. **SIKAWALL CORNER MESH:**
2. Install at corners, prior to application of reinforcing mesh.
3. Apply mixed Senergy base coat to insulation board at outside corners using a stainless-steel trowel. Immediately place mesh against the wet base coat and embed into the base boat by troweling from the corner; butt edges and avoid wrinkles.
4. After base coat is dry and hard, apply a layer of FLEXGUARD 4, INTERMEDIATE 6 or 12 reinforcing mesh over the entire surface of the CORNER MESH in accordance with 3.04 F.
5. **Standard Impact or Medium Impact Resistance Reinforcing Mesh:** FLEXGUARD 4 INTERMEDIATE 6 and INTERMEDIATE 12
6. Install specific Senergy reinforcing mesh where indicated on drawings.
7. Apply mixed Senergy base coat to entire surface of insulation board with a stainless-steel trowel to embed the reinforcing mesh.
8. Immediately place Senergy reinforcing mesh against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
9. Lap reinforcing mesh 64 mm (2 ½") minimum at edges.
10. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
11. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1.6 mm (1/16").
12. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).
13. **High Impact or Ultra High Impact Resistance Reinforcing Mesh:** INTERMEDIATE 12,

STRONG 15 and ULTRA HIGH 20

**NOTE TO SPECIFIER: Where STRONG 15 or ULTRA HI 20 is specified, FLEXGUARD 4 or INTERMEDIATE 6 must be specified also.**

1. Install Senergy reinforcing mesh where indicated on drawings.
2. Apply mixed Senergy base coat to entire surface of insulation board with a stainless-steel trowel to embed the reinforcing mesh.
3. Immediately place Senergy reinforcing mesh against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
4. Butt Senergy reinforcing mesh at all adjoining edges; do not use to backwrap or bend around corners.
5. Butt Senergy reinforcing mesh at adjoining edges of CORNER MESH.
6. Ensure reinforcing mesh is free of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
7. After base coat with embedded reinforcing mesh is dry and hard (normally 8 to 10 hours), apply a layer of FLEXGUARD 4 or INTERMEDIATE 6 reinforcing mesh over the entire surface in accordance with 3.04 F to achieve total nominal base coat/ reinforcing mesh thickness of 2.4 mm (3/32").
8. **Final Base Coat:** Spot all exposed fasteners (fasteners on outside of reinforced base coat) with mixed ALPHA DRY Base Coat prior to application of final layer of ALPHA DRY base coat. Multiple coats of base coat may be required to achieve a flat surface.
9. **SIKAWALL COLOR ADVANCE:** Apply material to the base coat/reinforcing mesh in sealant joints with a high-quality, latex-type paintbrush. Work material continuously until a uniform appearance is obtained. Allow to dry thoroughly (approximately 24 hours) prior to application of sealant primer and sealant.
10. **SIKAWALL TINTED PRIMER:** Apply primer to the base coat/reinforcing mesh with a sprayer, 10 mm (⅜") nap roller, or good quality latex paint brush at a rate of approximately 3.6-6.1m² per liter (150-250 ft² per gallon). Primer shall be dry to the touch before proceeding to the Senergy finish coat application.
11. **Finish Coat:** SENERFLEX, SENERFLEX TERSUS and CHROMA.
12. Apply finish directly to the base coat with a clean, stainless steel trowel.
13. Apply and level finish during the same operation to a minimum obtainable thickness consistent with uniform coverage. Maintain a wet edge on finish by applying and texturing continually over the wall surface.
14. Work finish to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area. Float finish to achieve final texture.
15. **SIKAWALL GRANITE AND STONE Finish:**
16. Apply SIKAWALL TINTED PRIMER to the substrate in accordance with the current product bulletin. Primer shall be of the corresponding color for the selected finish color. Allow the primer to dry to the touch before proceeding with finish application.
17. Apply a tight coat of finish with a clean, stainless steel trowel. Maintain a wet edge on finish by applying and leveling continually over the wall surface.
18. Work finish to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area. Allow first coat to set until surface is completely dry prior to applying a second coat of finish.
19. Use a stainless-steel trowel and apply the second coat of finish. Achieve final texture using circular motions. Total thickness of finish may be between 1.6 mm (1/16") and 3.2 mm (1/8").
	1. **CLEANING**
	2. Clean work under provisions of Section [01 74 00] [ ].
	3. B. Clean adjacent surfaces and remove excess material, droppings, and debris.
	4. **PROTECTION**
20. Protect materials from rain, snow and frost for 48-72 hours following application.
21. Under average conditions [21 °C (70 °F), 50% Relative Humidity] finish will be dry within 24 hours. Drying time is dependent on humidity, air temperature, sun exposure, surface conditions and finish thickness. Lower temperature, higher humidity and application in shaded areas will extend drying time. Protect finish from rain or other precipitation and temperatures less than 4°C (40°F)for a minimum of 24 hours or until dry.
22. Protect installed construction under provisions of Section [01 76 00] [ ].

**END OF SECTION**

**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/senergy 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/](https://eur06.safelinks.protection.outlook.com/?url=https%3A%2F%2Fusa.sika.com%2F&data=05%7C02%7Cnazmin.washington%40mbcc-group.com%7C7e0bfa0e724e455d4f3a08dc00bf4fa4%7Cad4af8a01f704297ad9a690073727036%7C0%7C0%7C638386068888688878%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=j2yiUpsz8vMqDWOyZZ25ABVJsQF%2BatjWYlXiV3Nv8tw%3D&reserved=0).