



Senergy Surfacing System for Concrete and Masonry Units

Weather resistant surfacing system using a mesh-reinforced base coat and 100% acrylic polymer exterior finish.

INTRODUCTION

This specification refers to application of the Senergy Surfacing System over concrete, brick and concrete masonry units (CMU) walls.

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 Master Builders Solutions Construction Systems US, LLC (herein referred to as "Master Builders Solutions") has prepared guidelines in the form of specifications, typical application details, and product bulletins to facilitate the design process only. Master Builders Solutions 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 Master Builders Solutions or otherwise, or for any changes which the purchasers, specifiers, designers or their appointed representatives may make Master Builders Solutions published comments

DESIGNING AND DETAILING A SENERGY SURFACING SYSTEM

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 concrete walls.
2. Painted and otherwise coated surfaces should be inspected and prepared as approved by Master Builders Solutions before application. The applicator shall verify that the proposed substrate is acceptable prior to the Senergy Surfacing System installation.

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 Senergy Surfacing System.
3. For a list of acceptable sealants refer to *Acceptable Sealants for use with Senergy Wall Systems* technical bulletin.

C. Grade Condition: The Senergy Surfacing System is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure.

TECHNICAL INFORMATION

Consult Master Builders Solutions' Technical Services Department for specific recommendations concerning all other applications. Consult the Senergy website, senergy.master-builders-solutions.com, for additional information about products, systems and for 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. 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.
- B. Senergy Surfacing System: A surfacing system typically consisting of Senergy Base Coat, Senergy Reinforcing Mesh and Senergy Finish Coat.

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 Senergy Surfacing System materials, product characteristics, performance criteria, limitations and durability.
- C. Samples: Submit [two] [x] [millimeter] [inch] size samples of Senergy Surfacing System illustrating finish coat [custom] color and texture range.
- D. Certificate: System manufacturer's approval of applicator.
- E. Sealant: Sealant manufacturer's certificate of compliance with ASTM C1382.
- F. 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.

1.04 QUALITY ASSURANCE

- A. Manufacturer: More than 10 years in the industry, with more than 1000 completed projects.
- B. Applicator: Approved by Master Builders Solutions 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. 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, insulation board, base coat, reinforcing mesh, primer (if specified), finish coat, and typical sealant/flashing conditions.

E. Testing:

1. Surfacing System with Senerflex Finish

TEST	METHOD	CRITERIA	RESULTS
Surface Burning	ASTM E84 / UL 723	Flame spread < 25 Smoke developed < 450	All components of the system meet Class A performance (FS < 25; SD < 450)
Water resistance of Coatings in 100% R.H.	ASTM D2247	No deleterious effects after 14 days	Pass
Freeze/Thaw Resistance	ASTM E2485	No deleterious effects at 10 cycles viewed under 5x magnification	Pass at 60 cycles
Salt Fog Resistance	ASTM B117	No change after 300 hours	Pass
Mildew Resistance	Mil. Std. 810B Method 508	No fungus growth after 28 days	Pass
Abrasion Resistance	ASTM D968	Finish Coat not worn through after 500 liters of falling sand	Pass after 686 liters of sand
Accelerated Weathering	ASTM G53	No deleterious effects after 7500 hours	Pass
Accelerated Weathering	ASTM G23	No deleterious effects after 2000 hours	Pass
Tensile Bond	ASTM C297,	Greater than 15 psi	Pass

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	E2134		
Alkali Resistance of Reinforcing Mesh	ASTM E2098	Greater than 120 pli retained strength after exposure	All weights of meshes pass

2. Surfacing System with Senerflex Tersus Finish

TEST	METHOD	CRITERIA	RESULTS
Surface Burning	ASTM E84 / UL 723	Flame spread < 25 Smoke developed < 450	All components of the system meet Class A performance (FS < 25; SD < 450)
Water resistance of Coatings in 100% R.H.	ASTM D2247	No deleterious effects after 14 days	Pass
Freeze/Thaw Resistance	ASTM E2485	No deleterious effects at 10 cycles viewed under 5x magnification	Pass at 60 cycles
Salt Fog Resistance	ASTM B117	No change after 300 hours	Pass
Mildew Resistance	Mil. Std. 810B Method 508	No fungus growth after 28 days	Pass
Abrasion Resistance	ASTM D968	Finish Coat not worn through after 500 liters of falling sand	Pass
Accelerated Weathering	ASTM G53	No deleterious effects after 7500 hours	Pass
Accelerated Weathering	ASTM G23	No deleterious effects after 2000 hours	Pass
Dirt Collection	ASTM D3719	61 days at 45° South exposure Dc Index = 99.0 (100 = Best Performance)	Pass
Dirt Pickup Resistance	Miami Dade County TAS 143-95 section 7.8 (modified)	Greater than 90% reflectance retained after dirt pickup	Pass
Tensile Bond	ASTM C297, E2134	Greater than 15 psi	Pass
Alkali Resistance of Reinforcing Mesh	ASTM E2098	Greater than 120 pli retained strength after exposure	All weights of meshes pass

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products under provisions of Section [\[01 66 00\] \[1\]](#).
- B. Deliver Senergy materials in original unopened packages with manufacturer's labels intact.
- C. Protect Senergy materials during transportation and installation to avoid physical damage.
- D. Store Senergy materials in cool, dry place protected from freezing. Store at no less than 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100 and ALUMINA Finish).
- E. Store Senergy Reinforcing Mesh in cool, dry place protected from exposure to moisture.

1.06 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule installation of Senergy Surfacing System 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.

1.07 PROJECT/SITE CONDITIONS

- A. Existing conditions: The contractor shall refer to Section 02 00 00 for project requirements and this contractor's responsibility there under.
- B. Do not apply Master Builders Solutions materials in ambient temperatures below 40°F/4°C (50°F/10°C for ALUMINA Finish). Provide properly vented, supplementary heat during installation and drying period when temperatures less than 40°F/4°C (50°F/10°C for ALUMINA Finish) prevail.
- C. Do not apply Master Builders Solutions materials to frozen surfaces.
- D. Maintain ambient temperature at or above 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100, and ALUMINA Finish) during and at least 24 hours after Master Builders Solutions material installation and until dry.
- E. Protect applied Senergy Surfacing System materials from rain for 24 hours or until dry.

1.08 WARRANTY

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- A. Provide Master Builders Solutions material warranty for Senergy Surfacing System installations under provisions of Section [01 07 00]. Reference Senergy's *Warranty Schedule* technical bulletin for specific information.
- B. Comply with Senergy application instructions and notification procedures to assure qualification for warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Senergy Surfacing System manufactured by Master Builders Solutions.

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 Master Builders Solutions' Technical Service Department for further assistance.)

- A. SURFACE STABILIZER WB Adhesion Promoter: (For painted, glazed or chalky surfaces) To prepare glazed or chalky, previously painted masonry surfaces that will receive a Senergy Surfacing System.
- B. **Senergy Base Coats: (Required, Select One or More)**
 - 1. ALPHA Base Coat: A 100% acrylic based adhesive and base coat, field-mixed with Type I or Type II Portland cement. It has a creamy texture that is easily spread.
 - 2. ALPHA DRY Base Coat: A dry-mix polymer adhesive and base coat containing Portland cement, and requiring only water for mixing.
 - 3. XTRA-STOP Base Coat: A 100% acrylic-based, water-resistant adhesive and base coat, field-mixed with Type I or Type II Portland cement.
 - 4. ALPHA GENIE Base Coat: A 100% acrylic, fiber-reinforced base coat, adhesive and leveler that is field-mixed with Type I or Type II Portland cement. Recommended over CMU and brick to reduce mortar joint telegraphing.

NOTE TO SPECIFIER: Portland cement is not used with ALPHA DRY Base Coats.

- C. Portland cement: Conform to ASTM C150, Type I, II, or I/II, grey or white; fresh and free of lumps.
- D. **Water:** Clean and potable without foreign matter.
- E. **FLEXGUARD 4 Reinforcing Mesh: (Required if patches or cracks are present)** A 4 oz balanced, open-weave glass, fiber reinforcing mesh, twisted multi-end strands treated for compatibility with Senergy Base Coats
- F. **TINTED PRIMER by Master Builders Solutions 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.
- G. **Senergy Finish Coat: (Required, Select One or More Finishes and Textures)**
 - 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:
 - a. CLASSIC: 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.
 - b. FINE: Utilizes uniformly-sized aggregates for a uniform, fine texture.
 - c. TEXTURE: Can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
 - d. SAHARA: Provides a uniform, "pebble" appearance.
 - 2. SENERFLEX TERSUS Finish: Modified acrylic based finish with water repellent properties, compatible with base coat; Senergy finish color [] as selected; finish texture:
 - a. F1.0: A 1.0 mm uniform aggregate creating a fine texture.
 - b. M1.5: A 1.5 mm uniform aggregate creating a medium sand texture.
 - 3. 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.
 - a. 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

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- [multiple colors.](#)
- b. [METALLIC: Has a pearlescent appearance. It utilizes uniformly-sized aggregates for a uniform fine texture.](#)
- c. [ALUMINA: 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.](#)
- 4. [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:](#)
 - a. [F1.0: Utilizes uniformly-sized aggregates for a uniformly fine texture.](#)
 - b. [M1.5: Provides a uniform "pebble" appearance.](#)
 - c. [R1.5: 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](#)
- H. [ANTICOGLAZE by Master Builders Solutions Glaze/Stain \(Optional\): 100% acrylic antiquing stain product used to impart an 'old world' mottled look to textured finishes.](#)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive Senergy Surfacing System 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 Senergy* technical bulletin.
- C. Fill large voids and irregularities with appropriate parging or cement mortar materials. Senergy ALPHA GENIE Base Coat can be applied at a maximum thickness of 1/4" (6.4 mm) to fill small voids and help level the surface. Other Senergy Base Coats can be applied at a maximum thickness of 1/8" (3.2 mm), to fill small voids and help level the surface.
- 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 Senergy Surfacing System.

3.02 PREPARATION

- A. All surfaces to receive Senergy Surfacing System components must be clean, dry and free of airborne contaminants.
- B. Protect all surrounding areas and surfaces from damage and staining during application of Senergy Surfacing System.
- 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.

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

- A. **SURFACE STABILIZER WB:** Mix the contents of the pail with a low speed drill and clean paddle mixer until thoroughly blended.
- B. **Senergy Base Coat:**
 - 1. ALPHA Base Coat: Mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one-part (by weight) Portland cement with one-part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
 - 2. XTRA-STOP Base Coat: Mix base coat with a clean, rust-free paddle and drill until thoroughly

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blended, before adding Portland cement. Mix one-part (by weight) Portland cement with one-part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.

3. ALPHA GENIE Base Coat: Mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one-part (by weight) Portland cement with one-part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
 4. ALPHA DRY Base Coat: Mix and prepare each bag in a 5-gallons (19-liter) pail. Fill the container with approximately 1.5-gallons (5.6-liters) of clean, potable water. Add ALPHA DRY Base Coat in small increments, mixing after each additional increment. Mix ALPHA DRY 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.
- C. 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.
- D. Senergy Finishes:** 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.
- E. Specialty Finishes:** ALUMINA Finish: Gently mix the contents of the pail for 1 minute using a low RPM 1/2" drill equipped with a mixing paddle such as a Demand Twister or a Wind-lock B-MEW, B-M1 or B-M9.
- F. ANTICOGLAZE:** Mix the contents of the pail with a slow speed drill and paddle mixer until thoroughly blended.

3.04 APPLICATION

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

- A. SURFACE STABILIZER WB:** Apply SURFACE STABILIZER WB evenly and uniformly over the entire wall surface. Surface shall be uniformly coated, free from voids, pinholes or blisters. Apply with a wide nylon bristle brush or 1/2" to 3/8" (6.4 to 9.5 mm) nap roller. Protect from rain and wash-off until the specified system is installed.
- B. Senergy Base Coat/ Optional Reinforcing Mesh:** Base coat shall be applied to achieve reinforcing mesh embedment with no reinforcing mesh color visible.
1. Apply mixed Senergy Base Coat to entire surface of the substrate with a stainless-steel trowel to provide a smooth level base for finish application.
Note: Multiple layers of base coat may be required to completely level/cover mortar joints in CMU or brick applications
 2. If reinforcing mesh is selected, immediately place FLEXGUARD 4 reinforcing mesh against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
 3. Lap reinforcing mesh 2-1/2" (64 mm) minimum at edges.
 4. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
 5. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1/16" (1.6 mm).
 6. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).
- C. TINTED PRIMER:**
1. Apply Primer to the base coat/reinforcing mesh with a sprayer, 3/8" (10 mm) nap roller, or good quality latex paint brush at a rate of approximately 150-250 ft² per gallon (3.6-6.1m² per liter).
 2. Primer shall be dry to the touch before proceeding to the Senergy Finish coat application.
- D. Senergy Finish Coat:** SENERFLEX, SENERFLEX TERSUS and CHROMA.
1. Apply Senergy Finish to the base coat or primed base coat with a clean, stainless steel trowel.
 2. Apply and level Senergy Finish during the same operation to minimum obtainable thickness consistent with uniform coverage.
 3. Maintain a wet edge on Senergy Finish by applying and texturing continually over the wall surface.
 4. Work Senergy finish to corners, joints or other natural breaks and do not allow material to set up

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within an uninterrupted wall area.

5. Float Senergy Finish to achieve final texture.

E. Specialty Finish:

1. ALUMINA Finish:

- a. Apply TINTED PRIMER by Master Builders Solutions to substrate in accordance with current product bulletin. Primer shall be of corresponding color for selected ALUMINA Finish color. Allow Primer to dry to the touch before proceeding Finish application.
- b. Apply a tight coat of finish with a clean, stainless steel trowel.
- c. Maintain a wet edge on finish by applying and leveling continually over the wall surface.
- d. 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
- e. Use a stainless-steel trowel and apply the second coat of finish. Achieve final texture using circular motions
- f. Total thickness of finish may be between 1/16" (1.6 mm) and 1/8" (3.2 mm).

- F. **ANTICOGLAZE Glaze/Stain:** Apply in accordance with recommendations contained in current product literature.

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 Finestone base coat, primer and finish 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

Master Builders Solutions Construction Systems US, LLC (hereinafter "Master Builders Solutions") warrants this product to be free from manufacturing defects and to meet the technical properties on the current Product Bulletin, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS SOLUTIONS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders Solutions. In the absence of an extended warranty issued by Master Builders Solutions, any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. Master Builders Solutions WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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