



Direct Finish System for Soffits and Ceilings Only

Seneflex lamina applications to soffits and ceilings

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 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 DIRECT FINISHING SYSTEM FOR SOFFITS AND CEILINGS ONLY

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: PermaBase® brand cement board (or other ASTM C1325 Type A Exterior approved cement boards); ASTM C1177 type sheathings including DensGlass™ exterior sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing and GreenGlass® sheathing; poured concrete/unit masonry; stucco or exterior gypsum soffits board (ASTM C931 or ASTM C1396).
2. Painted and otherwise coated surfaces of brick, unit masonry, stucco and concrete shall be inspected and prepared as approved by Senergy before application. The applicator shall verify that the proposed substrate is acceptable prior to the Direct Finishing System for Soffits and Ceilings installation.
3. The substrate systems shall be engineered with regard to structural performance by others.

B. System Joints

1. Expansion joints in the system are required at building expansion joints, 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.
2. Sealant joints are required at all penetrations through the Direct Finishing System for Soffits and Ceilings.
3. 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” and that meets minimum 50% elongation after conditioning.

TECHNICAL INFORMATION

Consult Master Builders Solutions’ Technical Services Department for specific recommendations concerning all other applications. Consult the Senergy website, www.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. Refer to all 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.
- B. Direct Finishing System for Soffits and Ceilings: consist of base coat, reinforcing mesh and finish coat.
- C. 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.
- D. The system type shall be Direct Finishing System for Soffits and Ceilings as manufactured by Master Builders Solutions, Minneapolis, MN.

1.02 RELATED SECTIONS

- A. Section 03 00 00 Concrete substrate
- B. Section 04 00 00 Masonry substrate
- C. Section 05 40 00 Cold-formed metal framing
- D. Section 06 16 00 Sheathing
- E. Section 06 11 00 Wood framing
- F. Section 07 62 00 Sheet Metal Flashing and Trim
- G. Section 07 65 00 Flexible flashing
- H. Section 07 90 00 Joint protection
- I. Section 09 22 00 Supports for plaster and gypsum board
- J. Section 09 22 16 Non-structural metal framing
- K. Section 09 29 00 Gypsum board

1.03 SUBMITTALS

- A. Submit under provisions of Section [01 33 00]
- B. Product Data: Provide data on Direct Finishing System for Soffits and Ceilings materials, product characteristics, performance criteria, limitations and durability.
- C. Samples: Submit two [x] [millimeter] [inch] size samples of Direct Finishing System for Soffits and Ceilings illustrating finish coat 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 EIFS industry, with more than 1000 completed EIFS projects.
- B. Applicator: Approved by Master Builders Solutions in performing work of this section.
- C. 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, base coat, reinforcing mesh, primer (if specified), finish coat and typical sealant conditions.
- D. Testing:
 - 1. Senerflex Finish

TEST	METHOD	CRITERIA	RESULTS
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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
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 686 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
Tensile Bond	ASTM C297, E2134	Greater than 15 psi	Pass

2. Reinforcing Mesh Testing and Impact Resistance

TEST	METHOD	CRITERIA	RESULTS
Alkali Resistance of Reinforcing Mesh	ASTM E 2098	Greater than 120 pli (21 dN/CM) retained tensile strength	Pass (all mesh)
FLEXGUARD 4	ASTM E2486 (formerly EIMA 101.86)	25-49 inch-lbs. (2.8-5.6 j)	Pass
INTERMEDIATE 6	ASTM E2486 (formerly EIMA 101.86)	25-49 inch-lbs. (2.8-5.6 j)	Pass
INTERMEDIATE 12	ASTM E2486 (formerly EIMA 101.86)	50-89 inch-lbs. (5.7-10.1 j)	Pass
INTERMEDIATE 12 & FLEXGUARD 4	ASTM E2486 (formerly EIMA 101.86)	90-150 inch-lbs. (10.2-17.0 j)	Pass
STRONG 15 & FLEXGUARD 4	ASTM E2486 (formerly EIMA 101.86)	150 inch-lbs. (17 j)	Pass
HI-IMPACT 20 & FLEXGUARD 4	ASTM E2486 (formerly EIMA 101.86)	150 inch-lbs. (17 j)	Pass

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products under provisions of Section [01 65 00] [01 66 00] [].
- B. Deliver Master Builders Solutions materials in original unopened packages with manufacturer's labels intact.
- C. Protect Master Builders Solutions materials during transportation and installation to avoid physical damage.
- D. Store Master Builders Solutions materials in cool, dry place protected from freezing. Store at no less than 40°F/4°C (50°F/10°C AURORA STONE, AURORA TC-100 and ALUMINA finish).
- E. Store MAXFLASH at a minimum of 40F. In cold weather, keep containers at room temperature for at least 24 hours before using.
- F. Store insulation boards flat and protected from direct sunlight and extreme heat.
- G. Store Reinforcing Mesh in cool, dry place protected from exposure to moisture.

1.06 PROJECT/SITE CONDITIONS

- A. Do not apply Master Builders Solutions material in ambient temperatures below 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100 and 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 AURORA STONE, AURORA TC-100 and ALUMINA Finish) prevail.
- B. Do not apply materials to frozen surfaces.
- C. 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 Channeled Adhesive CI Design Wall System installation and until dry.
- D. Protect installed product from precipitation and other sources of moisture for minimum of 24 hours and

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until dry.

1.07 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule installation of Direct Finishing System for Soffits and Ceilings with related work of other sections.
- B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.

1.08 WARRANTY

- A. Provide Master Builders Solutions standard warranty for Direct Finishing System for Soffits and Ceilings installations under provisions of Section [01 70 00]. Reference Senergy's *EIFS and Coating Warranty Schedule* technical bulletin for specific information.
- B. Comply with Master Builders Solutions' project review requirements and notification procedures to assure qualification for warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Direct Finishing System for Soffits and Ceilings 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. 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.

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

B. Portland cement: Conform to ASTM C150, Type I, II, or I/II, grey or white; fresh and free of lumps.

C. Water: Clean and potable without foreign matter.

D. Senergy Reinforcing Mesh: balanced, open-weave glass, fiber reinforcing mesh, twisted multi-end strands treated for compatibility with Senergy Base Coats. (Required, Select One)

1. FLEXGUARD 4: Standard weight, 4 oz.
2. INTERMEDIATE 6: Standard/medium weight, 6 oz.
3. INTERMEDIATE 12: Intermediate weight, 12 oz.
4. STRONG 15: Heavy weight, 15 oz. used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.
5. HI-IMPACT 20: Heavy weight, 20 oz. used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.

E. TINTED PRIMER by Master Builders Solutions (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 color.

F. SENERFLEX Finish Coat (Required, Select One or More Textures): 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:

1. 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.
2. COARSE: Has a heavy "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.

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4. [TEXTURE: Can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel](#)
5. [SAHARA: Provides a uniform, "pebble" appearance.](#)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive Direct Finishing System for Soffits and Ceilings 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.
- B. Ensure adhesion tests meet the requirements listed in the Basics of Conducting Adhesion Testing Senergy technical bulletin.
- C. Control/Expansion joint type and placement shall be the responsibility of the architect/engineer and substrate manufacturer.
- D. Unsatisfactory conditions shall be reported to the general contractor and corrected before application of the Direct Finishing System for Soffits and Ceilings.

3.02 PREPARATION

- A. All surfaces to receive Direct Finishing System for Soffits and Ceilings components must be clean, dry and free of airborne contaminants.
- B. Protect all surrounding areas and surfaces from damage and staining during application of Direct Finishing System for Soffits and Ceilings.
- 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. 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 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-gallos (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.

B. 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.

C. Senergy Finishes:

1. SENERFLEX 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.

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3.04 APPLICATION

A. Senergy Base Coat/Reinforcing Mesh:

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

1. Base coat shall be applied to achieve reinforcing mesh embedment with no reinforcing mesh color visible.

B. Standard Impact or Medium Impact Resistance Reinforcing Mesh: FLEXGUARD 4

INTERMEDIATE 6 and INTERMEDIATE 12

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. Lap reinforcing mesh 2 ½" (64 mm) minimum at edges.
5. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
6. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1/16" (1.6 mm).
7. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).

C. High Impact or Ultra High Impact Resistance Reinforcing Mesh: INTERMEDIATE 12, STRONG 15 and HI-IMPACT 20

NOTE TO SPECIFIER: Where STRONG 15 or HI-IMPACT 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 INTERMEDIATE 12, STRONG 15 or HI-IMPACT 20 against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
4. Butt STRONG 15 or HI-IMPACT 20 at all adjoining edges; do not use to backwrap or bend around corners.
5. Butt STRONG 15 or HI-IMPACT 20 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 to achieve total nominal base coat/ reinforcing mesh thickness of 3/32" (2.4 mm).

D. TINTED PRIMER:

1. Apply TINTED PRIMER to the base coat/reinforcing mesh with a sprayer, ¾" (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. TINTED PRIMER shall be dry to the touch before proceeding to the Senergy Finish application.

E. Senergy Finish Coat: SENERFLEX

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 within an uninterrupted wall area.
5. Float Senergy Finish to achieve final texture.

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

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A. Protect finished work under provisions of Section [01 76 00] [x].

END OF SECTION

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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