



Senerflex[®] Classic PB Wall System – Section 072413

Polymer-Based Exterior Insulation and Finish System providing a primary moisture 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 Wall Systems business of BASF Corporation (herein referred to as "BASF Wall Systems") has prepared guidelines in the form of specifications, typical application details, and product bulletins to facilitate the design process only. BASF Wall Systems 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 BASF Wall Systems or otherwise, or for any changes which the purchasers, specifiers, designers or their appointed representatives may make to BASF Wall Systems published comments.

DESIGNING AND DETAILING A SENERFLEX CLASSIC PB WALL SYSTEM

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

A. Wind Load

1. Maximum deflection not to exceed $L/240$ of span under positive or negative design loads unless otherwise approved in writing by BASF Wall Systems before installation.
2. Design for wind load in conformance with local code requirements.

B. Substrate Systems

1. Acceptable substrates are PermaBase[®] Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior), poured concrete/unit masonry, Fiberock[®] Aqua-Tough[™] Sheathing, e²XP[™] sheathing (ASTM C1177), GlasRoc[®] sheathing (ASTM C1177), Securock[™] glass-mat sheathing (ASTM C1177), DensGlass[®] exterior sheathing (ASTM C1177), gypsum sheathing (ASTM C79/C1396), Exposure I or exterior plywood (Grade CD or better), or Exposure I OSB.
2. Painted and otherwise coated surfaces of brick, unit masonry, stucco and concrete shall be inspected and prepared as approved by BASF Wall Systems before application. Other substrates shall be approved by the system's manufacturer in writing prior to the application. The applicator shall verify that the proposed substrate is acceptable prior to the Senerflex Classic PB Wall System installation.
3. The substrate systems shall be engineered with regard to structural performance by others.

C. Moisture Control

1. Prevent the accumulation of water behind the EIF system, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
 - a. 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, and at the base of the wall and anywhere else required by local code.

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- [b. 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.]
 - c. 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.
- D. Impact Resistance
 - 1. Provide Ultra-High impact resistance to a minimum height of 6' – 0" (1.8m) above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or potential impact. Indicate the areas with impact resistance requirements other than "Standard" on contract drawings.
- E. Color Selection
 - 1. The use of dark colors must be considered in relation to wall surface temperature as a function of local climate conditions. Select Finish Coat color with a light reflectance value (LRV) of 20% or higher. The use of dark colors (LRV less than 20%) is not recommended with EIF Systems that incorporate expanded polystyrene (EPS). EPS has a sustained service temperature limitation of approximately 71°C (160°F).
- F. System Joints
 - 1. Minimum ¾" (19mm) expansion joints in the system are required at building expansion joints, at prefabricated panel joints, floor lines of wood 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.
 - 2. Minimum ½" (13mm) wide sealant joints are required at all penetrations through the Senerflex Classic PB Design (windows, doors, etc.)
 - 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 When Used in Exterior Insulation and Finish System (EIFS) Joints," and that meets minimum 50% elongation after conditioning.
 - 4. The system must be properly terminated (back-wrapped a min. of 2", properly sealed, flashed) at all penetrations, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.
- G. 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, increased maintenance and premature deterioration of the system shall be expected and any deleterious affects caused by the lack of slope will not be the responsibility of BASF Corporation. 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 offer assistance to 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 1:2 (27°) with a maximum length of 30.5 cm (12") [e.g. 15 cm in 30.5cm (6" in 12")], unless other manufacturer-approved detailing is shown on the construction documents. Increase slope for northern climates to prevent accumulation of ice/snow on the surface.
 - 2. Senergy Wall Systems were designed and tested to be applied to vertical surfaces. As the slope of the wall system application decreases, the chance for premature

deterioration of any wall system increases.

3. Low sloping EIFS conditions are subject to more extreme heat. Low sloped areas are known to produce an increase in wall surface temperature. This design can lead to accelerated weathering of the low sloped surface.

H. Coordination with other trades

1. Evaluate adjacent materials such as windows, doors, etc. for conformance to manufacturer's details. Adjacent trades shall provide scaled shop drawings for review.
2. 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.
3. Provide site grading such that Senerflex Classic PB Design terminates a minimum of 8" (203mm) above finished grade or as required by code.
4. Install copings and sealant immediately after installation of the Senerflex Classic PB Design and when Senergy coatings are completely dry.

TECHNICAL INFORMATION

Consult BASF Wall Systems' Technical Services Department for specific recommendations concerning all other applications. Consult the Senergy website, www.senergy.basf.com, for additional information about products and systems and for updated literature.

PART 1 - GENERAL

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. Senerflex® Classic PB Wall System: Composite wall Exterior Insulation and Finish System consisting of Adhesive, rigid insulation, 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 Senerflex® Classic PB Wall System as manufactured by BASF Corporation - Wall Systems, Jacksonville, Florida (herein referred to as BASF Wall Systems).

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: Light gauge load-bearing metal framing
- D. Section 06 16 00 Wood sheathing
- E. Section 06 11 00 Wood framing
- F. Section 07 27 00 Air barriers
- G. Section 07 62 00 Sheet Metal Flashing and Trim: Perimeter Flashings
- H. Section 07 65 00 Flexible flashing
- I. Section 07 90 00 Joint protection
- J. Section 08 00 00 Openings
- K. Section 09 22 00 Supports for plaster and gypsum board
- L. Section 09 22 16 Non-structural metal framing
- M. Section 09 29 00 Gypsum board

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1.03 DEFINITIONS

- A. Exterior Insulation and Finish System: Exterior assembly comprised of rigid insulation, Adhesive, Base Coat, Reinforcing Mesh, and Finish Coat.
- B. 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 1.6 mm (1/16"). Protective Finish Coats, of various thicknesses, in a variety of textures and colors, are applied over the Base Coat.

1.04 SUBMITTALS

- A. Submit under provisions of Section [01 33 00]
- B. Product Data: Provide data on Senerflex Classic PB Design materials, product characteristics, performance criteria, limitations and durability.
- C. Code Compliance: Provide manufacturer's applicable code compliance report.
- D. Samples: Submit [two] [x] [millimeter] [inch] size samples of Senerflex Classic PB Design illustrating Finish Coat [custom] color and texture range.
- E. Certificate: System manufacturer's approval of applicator.
- F. Sealant: Sealant manufacturer's certificate of compliance with ASTM C1382.
- G. System manufacturer's current specifications, typical details, system design guide and related product literature which indicate preparation required, storage, installation techniques, jointing requirements and finishing techniques.

1.05 QUALITY ASSURANCE

- A. Manufacturer: More than 10 years in the EIFS industry, with more than 1000 completed EIFS projects.
- B. Applicator: Approved by BASF Wall Systems in performing work of this section.
- C. Regulatory Requirements: Conform to applicable code requirements for exterior insulation and finish 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.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products under provisions of Section [01 66 00] [].
- B. Deliver Senerflex® Classic PB Design materials in original unopened packages with manufacturer's labels intact.
- C. Protect Senerflex Classic PB Design materials during transportation and installation to avoid physical damage.
- D. Store Senerflex Classic PB Design materials in cool, dry place protected from freezing. Store at no less than 4°C/40°F (10°C/50°F for AURORA STONE, AURORA TC-100, ALUMINA™ and BOREALIS Finish).
- E. Stack insulation board flat, a minimum of 30.5 cm (12") above the ground, and protected from the sun.

- F. Store Senerflex Classic PB Design Reinforcing Mesh, SENERFLASH™/SENERWRAP™ flexible flashing in cool, dry place protected from exposure to moisture.

1.07 PROJECT/SITE CONDITIONS

- A. Do not apply Senerflex Classic PB Design in ambient temperatures below 4°C/40°F (10°C/50°F for AURORA STONE, AURORA TC-100, ALUMINA™ and BOREALIS Finish). Provide properly vented, supplementary heat during installation and drying period when temperatures less than 4°C/40°F (10°C/50°F for AURORA STONE, AURORA TC-100, ALUMINA™ and BOREALIS Finish) prevail.
- B. Do not apply Senerflex Classic PB Design materials to frozen surfaces.
- C. Maintain ambient temperature at or above 4°C/40°F (10°C/50°F for AURORA STONE, AURORA TC-100, ALUMINA™ and BOREALIS Finish) during and at least 24 hours after Senerflex Classic PB Design installation and until dry.

1.08 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule installation of Senerflex Classic PB Design with related work of other sections
- B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.

1.09 WARRANTY

- A. Provide BASF Wall Systems five-year materials warranty for Senerflex Classic PB Wall System installations under provisions of Section [01 70 00] [].
 - 1. Comply with BASF Wall Systems project review requirements and notification procedures to assure qualification for warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

Senerflex® Classic PB Design (Class PB System) manufactured by BASF Wall Systems.

(NOTE TO SPECIFIER: Items in brackets indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized. Contact BASF Wall Systems Technical Service Department for further assistance.)

2.02 MATERIALS

- A. [SENERPRIME™: black tinted, 100% acrylic-based sheathing primer for wood based sheathing substrates manufactured by BASF Wall Systems].

NOTE TO SPECIFIER: Select one or more of the following base coat materials. Delete those not utilized.

- B. Adhesives/Base Coats

- [1. NC-II Base: 100% acrylic polymer-based, non-cementitious base coat; manufactured by BASF Corp.]
- [2. SENERQUICK ADHESIVE: Water reducible, non-cementitious, translucent base coat; manufactured by BASF Corp.]
- [3. [STANDARD] [ALPHA] Base Coat: 100% acrylic base coat, field-mixed with Portland cement; manufactured by BASF Corp.]
- [4. ALPHA DRY Base Coat: Dry-mix base coat containing Portland cement; manufactured by BASF Corp.]
- [5. XTRA-STOP Base Coat: 100% acrylic-based, water-resistant base coat, field-mixed with Portland cement; manufactured by BASF Corp.]
- [6. ALPHA GENIE Base Coat: Fiber-reinforced, 100% acrylic base coat, field-mixed with Portland cement; manufactured by BASF Corp.]

NOTE TO SPECIFIER: Portland cement is not used with Senerquick, NC-II or Alpha Dry Base Coats.

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[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. Insulation Board

[1. EPS insulation board: Expanded polystyrene; ASTM C578, Type I; Flame spread less than 25, smoke developed less than 450 per ASTM E84, UL 723; minimum density 15.22 kg/m³ (0.95 lb/ft³; K=6.09/mm (0.24/inch); 19 mm (3/4") thickness minimum as indicated on drawings; meeting the following:

a. Air-dried (aged) six weeks, or equivalent, prior to installation.

b. Edges: Square within 0.8 mm per meter (1/32" per foot).

c. Thickness: Tolerance of plus or minus 1.6 mm (1/16").

d. Size: 0.6 m x 1.22 m (2' x 4').

e. Length and width: Tolerance of plus or minus 1.6 mm (1/16").]

- OR -

[1. QR polyisocyanurate insulation board: Quik-R by Dow; or Stucco-Shield II by Atlas Roofing Corporation. Nominal density 32 kg/m³ (2 lbs/ft³); 25, 38, or 50 mm (1", 1.5", or 2") thickness as indicated on Drawings; meeting the following:

a. Size: 1.22 m x 2.44 m, 1.22 m x 2.74 m (4' x 8', 4' x 9'), or other size as provided by insulation board manufacturer.

b. Edges: square within 4 mm (3/16") (1.22 m x 2.44 m / 4' x 8').

c. Thickness: tolerance of less than 1.6 mm (1/16") (25 mm / 1" thick).

d. Length: tolerance of plus or minus 6 mm (1/4") (1.22 m x 2.44 m / 4' x 8').

e. Width: tolerance of plus or minus 1.6 mm (1/16") (1.22 m x 2.44 m / 4' x 8').]

F. Senergy® Reinforcing Mesh: Balanced, open weave glass fiber reinforcing mesh; twisted multi-end strands treated for compatibility with Senerflex Classic PB Design components.

NOTE TO SPECIFIER: Select required mesh; delete those that are not to be utilized.

[1. FLEXGUARD 4: Standard weight.]

[2. INTERMEDIATE 6: Standard/medium weight.]

[3. INTERMEDIATE 12: Intermediate weight.]

[4. STRONG 15: Heavy weight, used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.]

[5. HI-IMPACT 20: Heavy weight, used only in combination with FLEXGUARD 4 or INTERMEDIATE 6.]

[6. FLEXGUARD [&]: Combination.]

[7. CORNER MESH: Intermediate weight, pre-marked for easy bending, for reinforcing at exterior corners.]

[G. [ASAP]: 100% acrylic-based coating; as manufactured by BASF Corp.]

[H. [COLOR COAT]: 100% acrylic-based coating; as manufactured by BASF Corp.]

[I. TINTED PRIMER: 100% acrylic-based primer; color [] to closely match the selected Senergy Finish Coat color; manufactured by BASF Corp.]

[J. Senergy Finish Coat:

NOTE TO SPECIFIER: Select one of the following finish types and textures. Delete those that are not to be utilized.

1. [SENERFLEX® 100% acrylic resin finish; air cured, compatible with Base Coat; Finish color factory-mixed; color [] as selected; Finish texture [CLASSIC] [FINE] [TEXTURE] [COARSE] [SAHARA] [BELGIAN LACE] [ENCAUSTO VERONA] [METALLIC] [BOREALIS] [AURORA TC-100] [AURORA STONE] [ALUMINA™] as scheduled.]

- OR -

2. [SILCOAT® Finish: Siliconized acrylic emulsion finish coat; air cured, Finish color factory-mixed; color [] selected; Finish texture [CLASSIC] [FINE] [TEXTURE] [SAHARA] as scheduled.]

[K. BASF Wall System's AnticoGlaze™: 100% acrylic stain, manufactured by BASF Wall Systems]

2.03 ACCESSORIES

A. (Optional) Air/Weather Barrier:

NOTE TO SPECIFIER: Select SENERSHIELD® and/or SENERSHIELD-R® (most typically one or the other) in section 1 and one or more of the corresponding components listed in section 2. Delete those not utilized.

1. [SENERSHIELD®: 100% acrylic-based, fiber-reinforced Air/Water Resistive Barrier that is field mixed with Type I or Type II Portland cement.]

- OR -

[SENERSHIELD-R®: ready-mixed, flexible Air/Water Resistive Barrier.]

2. [a. FLASHING PRIMER: water-based primer for use prior to application of SENERFLASH™ on all acceptable surfaces.

b. SENERFLASH™: 30-mil thick, self-sealing, self-healing composite membrane of polyester fabric and rubberized asphalt. Compatible with SENERSHIELD or SENERSHIELD-R Air/Water Resistive Barrier.]

[c. Senergy® SELF-ADHERING MESH TAPE 4: 100 mm (4") balanced, open weave glass fiber reinforcing mesh with adhesive; twisted multi-end strands treated for compatibility with system components for use with SENERSHIELD]

[d. FLEXGUARD 4 Mesh: 100 mm (4") balanced, open weave glass fiber Reinforcing Mesh; twisted multi-end strands treated for compatibility with system components for use with SENERSHIELD]

[e. 4" SHEATHING FABRIC: 100mm (4") spunbonded non-woven reinforced polyester web for use with SENERSHIELD-R.]

B. [Fastener System: Type appropriate for application and substrate, as recommended by BASF Wall Systems. *The use of both adhesive and mechanical attachment is not required by Senergy.*

1. EPS insulation board fasteners: Wind-Devil 2 Mechanical Fastening System manufactured by Wind-lock Corp.

a. Temporary Fasteners: Galvanized nails or building staples.

b. Light gauge steel framing (20 gauge): Type LM fastener and plate system; 16 mm (5/8") minimum penetration into framing.

c. Heavy gauge steel framing (20 to 12 gauge maximum): Type S fastener and plate system; 16 mm (5/8") minimum penetration into framing.

d. Masonry: Type ME expansion fastener and plate system; 25 mm (1") minimum penetration into masonry.

e. Wood framing: Type W fastener and plate system; 16 mm (5/8") minimum penetration into framing.]

- OR -

[Galvanized common nails with Wind-lock ULP-302 plates; 25.4 mm (1") minimum penetration into framing.]

- OR -

[1. QR polyisocyanurate insulation board fasteners

a. Temporary Fasteners: Galvanized nails or building staples.

b. Insulation Board Fasteners:

1. Unit Masonry or Concrete: Type ME expansion anchor or type M 4.8 mm (3/16") diameter bugle head masonry anchor with 44 mm (1.75") diameter ULP-402 plate by Wind-lock Corp.; 25 mm (1") minimum anchor penetration into masonry.

2. Light Gauge Steel Framing/Furring (20 Gauge): Type S bugle head screws 44 mm (1.75") diameter ULP-402 plate by Wind-Lock Corp.; 25 mm (1") minimum anchor penetration into framing.

3. Heavy Gauge Steel Framing (20 to 12 Gauge maximum): Type S-12 bugle head screws 44 mm (1.75") diameter ULP-402 plate by Wind-lock Corp.; 25 mm (1") minimum anchor penetration into framing.

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4. Wood framing: Type W bugle head screws or galvanized common nails with ULP-402 plate by Wind-lock Corp.; screws shall penetrate framing 16 mm (5/8") minimum; galvanized common nails shall penetrate framing 25 mm (1") minimum.]

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify project site conditions under provisions of Section [01 00 00].
- B. Walls
 1. Substrates
 - a. Acceptable substrates are PermaBase® brand cement board (or other ASTM C1325 Type A Exterior approved cement boards), poured concrete/unit masonry, Fiberock Aqua-Tough™ Sheathing, e²XP™ sheathing (ASTM C1177), GlasRoc® sheathing (ASTM C1177), DensGlass® exterior sheathing (ASTM C1177), Securock™ glass-mat sheathing (ASTM C1177), gypsum sheathing (ASTM C79/C1396), Exposure 1 or exterior plywood sheathing (Grade C-D or better), Exposure 1 OSB. Consult the BASF Wall Systems Technical Services Department for all other applications.
 - b. Wall sheathings must be securely fastened per applicable building code and sheathing manufacturer's requirements.
 - c. Examine surfaces to receive Senerflex® Classic PB Design and verify that substrate and adjacent materials are dry, clean, and sound. Verify substrate surface is flat, free of fins or planar irregularities greater than 6 mm in 3 m (1/4" in 10').
 2. Flashings
 - a. All flashings are by others and must be installed in accordance with specific manufacturer's requirements. Where appropriate, end-dams must be provided.
 - b. As an option, openings may be flashed with a minimum 229 mm (9") strip of Secondary Moisture Barrier prior to window/door, HVAC, etc. installation to increase the level of moisture protection. Refer to Senerflash product bulletin and *Senergy® Moisture Protection Guidelines* from Senergy for additional information and complete installation instructions.
 - c. Windows and openings shall be flashed according to design and Building Code Requirements.
 - d. Individual windows that are ganged to make multiple units require continuous head flashing and/or the joints between the units must be fully sealed.
 3. Roof

Verify that all roof flashings have been installed in accordance with the guidelines set by the Asphalt Roofing Manufacturers Association (ARMA).
 4. Kick-out flashing must be leak-proof and angled (min 100°) to allow for proper drainage and water diversion.
- C. Do not proceed until all unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Protect all surrounding areas and surfaces from damage and staining during application of Senerflex Classic PB Design.
- B. Protect finished work at end of each day to prevent water penetration.
- C. Substrate preparation: Prepare substrates in accordance with Senergy instructions.

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 will be incorporated in the Senerflex Classic PB Design. Delete those not to be utilized.

[A. Air/Weather Barrier

[1. SENERSHIELD™

- a. Mix SENERSHIELD with a clean, rust-free paddle and drill until thoroughly blended before adding Portland cement.
- b. Mix one part (by weight) Portland cement with one part SENERSHIELD. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment.
- c. A small amount of clean, potable water per mixed pail (30 lbs of SENERSHIELD™) may be added to adjust workability. **Do not overwater.]**

[2. SENERSHIELD-R

- a. Mix SENERSHIELD-R with a clean, rust-free paddle and drill until thoroughly blended. Do not add water.]]

B. Senergy® Base Coat

1. [NC-II BASE]:

- a. Mix NC-II BASE with a clean, rust-free paddle and drill until thoroughly blended.
- b. Clean, potable water may be added to adjust workability.

2. [SENERQUICK™ Adhesive]:

- a. Prepare in a container, which is clean and free of foreign substances. Do not use container which has contained or been cleaned with a petroleum-based product.
- b. Mix with a clean, rust-free paddle and drill until thoroughly blended.

3. [STANDARD], [ALPHA], [XTRA-STOP], and [ALPHA GENIE] Base Coat

- a. Mix Base Coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement.
- b. 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.
- c. Clean, potable water may be added to adjust workability.

4. [ALPHA DRY] Base Coat

- a. Mix and prepare each bag in a 19-liter (5-gallon) pail.
- b. Fill the container with approximately 5.6-liters (1.5-gallons) of clean, potable water.
- c. Add ALPHA DRY Base Coat in small increments, mixing after each additional increment.
- d. Mix ALPHA DRY Base Coat and water with a clean, rust-free paddle and drill until thoroughly blended.
- e. Additional ALPHA DRY Base Coat or water may be added to adjust workability.

C. Senergy [ASAP], [TINTED PRIMER], [COLOR COAT], [ANTICOGLAZE™] and [SENERFLEX], [SILCOAT®], [ENCAUSTA VERONA] Finish Coats

1. Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended.
2. A small amount of clean, potable water may be added to adjust workability. **Do not overwater**
3. Additives are not permitted.
4. Close container when not in use.
5. Clean tools and equipment with water immediately after use.

D. Senergy [AURORA TC-100], [BOREALIS], [AURORA STONE] and [ALUMINA] Specialty Finish Coats

1. Gently mix the contents of the pail for 1 minute using a low RPM 1/2 inch drill equipped with a mixing paddle such as a Demand Twister or a Windlock B-MEW, B-M1 or B-M9.
2. Additives are not permitted.
3. Close container when not in use.
4. Clean tools with soap and water immediately after use.

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3.04 APPLICATION

General: Apply Senerflex® Classic PB Design materials in accordance with Senerflex Classic PB Design Specifications.

[A. Air/Water Resistive Barrier

1. As an option, openings may be flashed with a minimum 229 mm (9") strip of Secondary Moisture Barrier prior to window/door, HVAC, etc. installation to increase the level of moisture protection. Refer to Senerflash product bulletin and Senergy® Moisture Protection Guidelines from Senergy for additional information and complete installation instructions.
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 6.4 mm in 3 m (¼" in 10').
3. Unsatisfactory conditions shall be corrected before application of the SENERSHIELD/ SENERSHIELD-R.
4. [Apply the [FLASHING PRIMER/SENERFLASH 4 / 9] [SELF-ADHERING MESH TAPE/SENERSHIELD] [FLEXGUARD 4 Reinforcing Mesh/SENERSHIELD] in accordance with SENERSHIELD product bulletin.]
-OR -
[Apply the [4" SHEATHING FABRIC/SENERSHIELD-R] in accordance with the SENERSHIELD-R product bulletin.]
5. Installed materials should be checked before continuing system application.
6. Ensure [FLEXGUARD 4 Reinforcing Mesh/SENERSHIELD] [FLASHING PRIMER/SENERFLASH/SENERSHIELD] [SELF-ADHERING MESH TAPE/SENERSHIELD] [4" SHEATHING FABRIC/SENERSHIELD-R] overlaps the top flange of the starter track.]

B. Insulation Board:

1. Vertical surfaces: begin at base from firm, permanent, or temporary support.
2. Apply 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 and sheathing board joints.
4. [Notched Trowel Method: [gypsum sheathing] [PermaBase Cement-Board and other cement-boards conforming with ASTM C1325 (Type A-exterior)] [poured concrete/unit masonry] [Fiberock Aqua-Tough Sheathing] [DensGlass Gold (ASTM C1177)] [e²XP sheathing (ASTM C1177)] [GlasRoc sheathing (ASTM C1177)] [gypsum sheathing (ASTM C79/C1396)] substrates. Apply mixed [NC-II BASE] [ALPHA] [STANDARD] [ALPHA DRY] [XTRA STOP] [ALPHA GENIE] 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 13 mm (1/2") apart, or 10 mm x 10 mm (3/8" x 3/8") notches spaced 10 mm (3/8") apart.]
OR -
[Gypsum sheathing (ASTM C79/C1396 or other)] [PermaBase Cement-Board and other cement-boards conforming with ASTM C1325 (Type A-exterior)] [DensGlass Gold sheathing (ASTM C1177)] [e²XP sheathing (ASTM C1177)] [GlasRoc sheathing (ASTM C1177)] [poured concrete] [unit masonry] [] substrates. Apply mixed SENERQUICK™ Adhesive to entire surface of insulation board using a stainless steel trowel with 5 mm x 5 mm (3/16" x 3/16") notches spaced 5 mm (3/16") apart.]
OR -
[Ribbon and Dab Method: [PermaBase Cement-Board and other cement-boards conforming with ASTM C1325 (Type A-exterior)] [poured concrete] [unit masonry] [] substrates. Apply a ribbon of [NC-II BASE] [ALPHA] [STANDARD] [ALPHA DRY] [XTRA STOP] [ALPHA GENIE] Base Coat approximately 50 mm (2") wide by 10 mm (3/8") thick to entire perimeter of each board with a stainless steel trowel. Apply dabs

or ribbons of 10 mm (3/8") thickness and 100 mm (4") in diameter, approximately 200 mm (8") on center to interior area of board.]

NOTE: Ribbon & dab method is not recommended on gypsum or wood-based sheathing substrates.

5. Immediately set board into place and apply pressure over entire surface of board to ensure positive uniform contact and high initial grab. 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 a board prior to set. Properly installed insulation board will be difficult to remove and Senerflex Adhesive/Base Coat will be adhered to both the substrate and the insulation board.
 8. Fill gaps greater than 1/16" between insulation boards with slivers of insulation board.
 9. Allow application of insulation board to dry (normally 8 to 10 hours) prior to application of Base Coat/Reinforcing Mesh.
 10. Rasp flush any irregularities of the insulation board greater than 1.6 mm (1/16").
 11. Install expansion joints and other joints as indicated on drawings. Do not align aesthetic grooves with insulation board joints.
- C. Senergy® Base Coat/Reinforcing Mesh: Base Coat shall be applied so as to achieve Reinforcing Mesh embedment with no Reinforcing Mesh color visible.

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

- [1. Senergy CORNER MESH
 - a. Install CORNER MESH at exterior corners.
 - b. Apply CORNER MESH prior to application of Reinforcing Mesh.
 - c. Cut CORNER MESH to workable lengths.
 - d. Apply mixed [ALPHA] [STANDARD] [ALPHA DRY] [XTRA-STOP] [ALPHA GENIE] Base Coat to insulation board at outside corners using a stainless steel trowel.
 - e. Immediately place CORNER MESH against the wet Base Coat and embed the CORNER MESH into the Base Coat by troweling from the corner; butt edges and avoid wrinkles.
 - f. 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 D.2.]
2. Standard Impact or Medium Impact Resistance Reinforcing Mesh.
 - a. Install [FLEXGUARD 4] [INTERMEDIATE 6] [INTERMEDIATE 12] where indicated on the drawings.
 - b. Apply mixed [STANDARD] [ALPHA] [ALPHA DRY] [XTRA-STOP] [ALPHA GENIE] [NC-II] Base Coat to entire surface of insulation board with a stainless steel trowel to embed the Reinforcing Mesh.
 - c. Immediately place [FLEXGUARD 4] [INTERMEDIATE 6] [INTERMEDIATE 12] Reinforcing Mesh against wet Base Coat and embed the Reinforcing Mesh into the Base Coat by troweling from the center to the edges.
 - d. Lap Reinforcing Mesh 64 mm (2 1/2") minimum at edges.
 - e. Ensure Reinforcing Mesh is continuous at corners, void of wrinkles and embedded in Base Coat so that no Reinforcing Mesh color is visible.
 - f. If required, apply a second layer of Base Coat to achieve total nominal Base Coat/Reinforcing Mesh thickness of 1.6 mm (1/16").
 - g. Allow Base Coat with embedded Reinforcing Mesh to dry hard (normally 8 to 10 hours).
- [3. High Impact or Ultra High Impact Resistance Reinforcing Mesh
NOTE TO SPECIFIER: Where High Impact or Ultra High Impact is specified, Flexguard 4 or Intermediate 6 must be specified also.
 - a. Install [INTERMEDIATE 12 & FLEXGUARD 4] [INTERMEDIATE 12 & INTERMEDIATE 6] [STRONG 15 & FLEXGUARD 4] [STRONG 15 &

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- b. INTERMEDIATE 6] [HI-IMPACT 20 & FLEXGUARD 4] [HIIMPACT 20 & INTERMEDIATE 6] Reinforcing Mesh where indicated on drawings.
- c. Apply mixed [STANDARD] [ALPHA] [ALPHA DRY] [XTRA-STOP] [ALPHA GENIE] [NC-II] Base Coat to entire surface of insulation board with a stainless steel trowel to embed the Reinforcing Mesh.
- d. Immediately place [INTERMEDIATE 12] [STRONG 15] [HI-IMPACT 20] Reinforcing Mesh against wet Base Coat and embed the Reinforcing Mesh into the Base Coat by troweling from the center to the edges.
- e. Butt [INTERMEDIATE 12] [STRONG 15] [HI-IMPACT 20] Reinforcing Mesh at all adjoining edges; do not use to backwrap or bend around corners.
- f. Butt [INTERMEDIATE 12] [STRONG 15] [HI-IMPACT 20] Reinforcing Mesh at adjoining edges of CORNER MESH.
- g. Ensure Reinforcing Mesh is free of wrinkles and embedded in Base Coat so that no Reinforcing Mesh color is visible.
- h. After Base Coat with embedded Reinforcing Mesh is dry and hard (normally 8 to 10 hours), apply a layer of [FLEXGUARD 4] [INTERMEDIATE 6] Reinforcing Mesh over the entire surface in accordance with 3.04 C.2 to achieve total nominal Base Coat/ Reinforcing Mesh thickness of 2.4 mm (3/32").]

[C. Senergy® [ASAP] [COLOR COAT]

1. Apply material to the Base Coat/Reinforcing Mesh in sealant joints with a high-quality, latex-type paintbrush.
2. Work material continuously until a uniform appearance is obtained.
3. Allow to dry thoroughly (approximately 24 hours) prior to application of sealant primer and sealant.]

[D. Senergy TINTED PRIMER

1. Apply TINTED PRIMER to the Base Coat/Reinforcing Mesh with a sprayer, 10 mm ($\frac{3}{8}$ ") nap roller, or good-quality latex paint brush at a rate of approximately 3.6–6.1 m² per liter (150–250 ft² per gallon).
2. TINTED PRIMER shall be dry to the touch before proceeding to the Senergy Finish Coat application.]

E. Senergy Finish Coat

- [1. SENERFLEX® FINISH: [CLASSIC] [FINE] [TEXTURE] [COARSE] [SAHARA] [BELGIAN LACE] [ENCAUSTO VERONA] [METALLIC].

- OR -

SILCOAT® Finish: [CLASSIC] [FINE] [TEXTURE] [SAHARA]

- a. Apply Finish directly to the stucco brown coat with a clean, stainless steel trowel.
- b. Apply and level Finish during the same operation to minimum obtainable thickness consistent with uniform coverage.
- c. Maintain a wet edge on Finish by applying and texturing 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.
- e. Float Finish to achieve final texture.]
- [2. AURORA TC-100] [BOREALIS] Finish Coat
 - a. Apply TINTED PRIMER to substrate in accordance with current Senergy TINTED PRIMER product bulletin. TINTED PRIMER shall be of corresponding color for selected [AURORA TC-100] [BOREALIS] Finish color. Allow TINTED PRIMER to dry to the touch before proceeding to [AURORA TC-100] [BOREALIS] 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. For a smooth appearance, use a stainless steel trowel and apply the second coat of Finish. Achieve final texture using circular motions.
- f. For a textured appearance, apply the second coat of Finish using a spray gun and hopper.
- g. Double-back to achieve final texture.
- h. Total thickness of Finish shall be approximately 1.6 mm (1/16").

[3. AURORA STONE Finish

- a. Apply TINTED PRIMER to substrate in accordance with current Senergy® TINTED PRIMER product bulletin. TINTED PRIMER shall be of corresponding color for selected AURORA STONE Finish color. Allow TINTED PRIMER to dry to the touch before proceeding to AURORA STONE Finish application.
- b. Apply a coat of AURORA STONE Finish using a spray gun and hopper, maintaining a wet edge. Work to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area.
- c. Allow first coat of AURORA STONE Finish to set until surface is completely dry prior to applying a second coat of AURORA STONE Finish.
- d. Apply a second coat of AURORA STONE Finish using a spray gun and hopper; double back to achieve final texture.
- e. Thickness of AURORA STONE Finish may vary between 1.6 mm (1/16") and 3.2 mm (1/8"), depending upon texture.

Note: Spraying of AURORA STONE Finish should be by the same manner, direction and mechanic on a particular elevation or project whenever possible, to maintain a uniform appearance. Maintain consistent air pressure to minimize texture variations. Stator or rotor design pumps are not recommended.]

[4. ALUMINA™ Finish Coat

- a. Apply TINTED PRIMER to substrate in accordance with current Senergy® TINTED PRIMER product bulletin. TINTED PRIMER shall be of corresponding color for selected [ALUMINA™] Finish color. Allow TINTED PRIMER to dry to the touch before proceeding to [ALUMINA™] 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 1.6 mm (1/16") and 3.2 mm (1/8").]

[F. BASF Wall System's AnticoGlaze™:

- 1. Apply BASF Wall System's AnticoGlaze™ in accordance with recommendations contained in current product literature.]

3.05 CLEANING

- A. Clean work under provisions of Section [01700] [].
- B. Clean adjacent surfaces and remove excess material, droppings, and debris.

3.06 PROTECTION

Protect finished work under provisions of Section [01500] [].

END OF SECTION

Note

The Wall Systems business of BASF Corporation is referred to herein as "BASF Wall Systems."

Residential Policy

Apply wall systems in accordance with local building codes in force at the time of construction. On one and two-family residential framed construction; BASF Wall Systems requires that the wall system selected be one that includes provisions for moisture drainage. Please view the Senergy Residential Policy Bulletin on the Senergy website for a more detailed discussion of this topic.

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BASF Corporation**Wall Systems**

3550 St. Johns Bluff Road South
Jacksonville, FL 32224-2614
Phone 800 • 221 • 9255
Fax 904 • 996 • 6300
www.senergy.basf.com

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