

## **Senergy<sup>®</sup> Platinum CI Stucco Plus System - Section 092423**

Specification for 2 and 3 coat impact-resistant continuously insulated (CI) premium cement plaster stucco system featuring a fluid-applied 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. Items in brackets indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized.

### **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 - (hereinafter 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 Senergy PLATINUM CI STUCCO PLUS 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/360 under positive or negative design loads.
2. Design for wind load in conformance with local code requirements.

#### **B. Substrate Systems:**

1. Acceptable substrates are PermaBase<sup>®</sup> Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior); poured concrete/unit masonry; ASTM C1177 type sheathings including DensGlass<sup>™</sup> and DensElement (sheathing only) eXP<sup>™</sup> sheathing, GlasRoc<sup>®</sup> sheathing, Securock<sup>™</sup> glass-mat sheathing, Weather Defense<sup>™</sup> Platinum sheathing, and GreenGlass<sup>®</sup> sheathing; gypsum sheathing (ASTM C79/C1396); Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB or Huber ZIP (sheathing only).
2. The substrate systems shall be engineered with regard to structural performance by others.
3. Refer to Senergy's *Stucco Wall Systems Lath and Trim Accessories* technical bulletin for more detailed information regarding metal lath, woven wire, trim requirements, etc.

#### **C. Moisture Control:**

1. Prevent the accumulation of water behind the Senergy PLATINUM CI STUCCO PLUS wall 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.
  - 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.

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- 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. **Color Selection:** The use of dark colors over expanded polystyrene (EPS) trim shapes must be considered in relation to wall surface temperature as a function of local climate conditions. Select Finish Color with a light reflectance value (LRV) of 20% or higher. The use of dark colors (LRV less than 20%) is not recommended with EPS trim shapes as EPS has a sustained service temperature limitation of approximately 71°C (160°F).
- E. **Grade Condition:** Stucco is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure. Ensure a minimum 6" (150 mm) clearance above grade or as required by code, a minimum 2" (50.8mm) clearance above finished grade (sidewalk/concrete flatwork).
- F. **Decorative Shapes, Projecting Architectural Features:**  
**NOTE TO SPECIFIER: Installation of the Senergy PLATINUM CI STUCCO PLUS wall system with decorative shapes that incorporate EPS outside the slope guidelines referenced in this specification may still qualify for a standard warranty; however, increased maintenance and premature deterioration of the trim shapes shall be expected and any deleterious effects caused by the lack of slope will not be the responsibility of BASF Wall Systems. The design professional has the option to build per his/her project needs. The design professional must also consider geography, climate, building orientation, wall orientation and adjacent building components when designing with EPS trim shapes. 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.**

Minimum slope for all projections shall be 1:2 (27°) with a maximum length of 12" (30.5 cm) [e.g. 6" in 12" (15 cm in 30.5cm)]. Increase slope for Northern climates to prevent accumulation of ice/snow on the surface.

**NOTE TO SPECIFIER: Senergy PLATINUM CI STUCCO PLUS wall systems were designed and tested to be applied to vertical surfaces. As the slope of the system application decreases, the chance for premature deterioration of any wall system increases. Low sloping conditions are subject to more extreme heat. Low sloped areas are known to produce an increase in wall surface temperature which can lead to accelerated weathering of the low sloped surface.**

### G. System Joints:

1. Expansion joints in the system are required at building expansion joints, floor lines of wood frame construction or steel framed with slip track, where substrates change, at termination at dissimilar materials and where structural movement is anticipated. Detail specific locations in construction drawings.
2. Control joints are required at a minimum of every 144ft<sup>2</sup> (13m<sup>2</sup>) of wall surface area and where specified by the design professional. The maximum uncontrolled length or width is 18 lineal feet (5.5 lineal meters) and a maximum uncontrolled length to width ratio of 2 1/2: 1. Detail specific locations in construction drawings.

**NOTE TO SPECIFIER: It is the sole responsibility of the project design team, including the architect, engineer, etc., to ultimately determine specific expansion and control joint placement, width and design. Sealant joints are required at all penetrations through the Senergy PLATINUM CI STUCCO PLUS wall system (windows, doors, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.). Refer to Senergy PLATINUM CI STUCCO PLUS wall system typical details.**

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

### H. Decks:

Wood decks must be properly flashed prior to system application. For proper application, refer to Senergy PLATINUM CI STUCCO PLUS wall system typical details. The Senergy PLATINUM CI STUCCO PLUS wall system must be terminated a minimum of 1" (25mm) above wood decks.

### I. Coordination with other trades:

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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. Air seals are needed between the primary air/water-resistive barrier and other wall components (penetrations, etc.) to maintain continuity of an air barrier system.
3. Provide protection of rough openings in accordance with *Air/Water-Resistive/Vapor Barrier Application Guidelines* technical bulletin before installing windows, doors, and other penetrations through the wall.
4. Install copings and sealant immediately after installation of the Senergy PLATINUM CI STUCCO PLUS wall system and when Senergy coatings are completely dry.

### **TECHNICAL INFORMATION**

Consult BASF Wall Systems' Technical Services Department for specific recommendations 800-589-1336. Consult the Senergy website, [www.senergy.basf.com](http://www.senergy.basf.com), for additional information about products and systems and for updated literature.

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## **PART 1 – GENERAL**

### **1.01 SECTION INCLUDES**

- A. 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 such work is specifically mentioned herein.
- A. PLATINUM CI STUCCO PLUS wall system: A composite insulated stucco wall system consisting of Senergy air/water-resistive barrier, rigid insulation, BASF PERMALATH 1000 or acceptable expanded metal or wire lath, BASF STUCCOBASE/ STUCCOBASE PREMIX, Senergy BASE COAT (if specified), BASF Reinforcing Mesh (if specified) and Senergy Finish Coat.
- B. 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.
- C. The system type shall be Senergy PLATINUM CI STUCCO PLUS wall system as manufactured by BASF Wall Systems, Shakopee, 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 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
- 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
- N. Section 09 22 36 Lath

### **1.03 REFERENCES**

- A. ASTM C150 Standard Specification for Portland Cement
- B. ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster
- C. ASTM C1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
- D. ASTM C847 Standard Specification for Metal Lath
- E. ASTM C933 Standard Specification for Welded Wire Lath
- F. ASTM C1032 Standard Specification for Woven Wire Plaster Base
- G. ASTM C1764 Standard Test Methods for Non-Metallic Plaster Bases (Lath) used with Portland Cement Based Plaster in Vertical Applications
- H. ASTM C1787 Standard Specification for Installation of Non-Metallic Plaster Bases (Lath) used with Portland Cement Based Plaster in Vertical Applications
- I. ASTM C1788 Standard Specification for Installation of Non-Metallic Plaster Bases (Lath) used with Portland Cement Based Plaster in Vertical Applications
- J. ASTM D1784 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (PVC) Compounds
- K. ICC-ES AC11 Cementitious Exterior Wall Coatings
- L. CCRR 0230 Intertek Code Compliance Research Report (BASF STUCCOBASE™/ STUCCOBASE™ PREMIX)
- M. CCRR 0249 Intertek Code Compliance Research Report (PERMALATH 1000)
- N. ESR-3463 ICC Evaluation Service, LLC, ES Report™ (NEOPOR® Rigid Insulation Board)

### **1.04 SUBMITTALS**

- A. Submit under provisions of Section [01 33 00]
- B. Product Data: Provide data on Senergy PLATINUM CI STUCCO PLUS wall system materials, product characteristics, performance criteria, limitations and durability.

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- C. Code Compliance: Provide manufacturer's applicable code compliance report.
- D. Samples: Submit [\[two\]](#) [\[x\]](#) [\[inch\]](#) [\[centimeter\]](#) size samples of Senergy PLATINUM CI STUCCO PLUS wall system illustrating Senergy Finish color and texture range.
- E. Certificate: System manufacturer's approval of applicator.
- F. Sealant: Sealant manufacturer's certificate of compliance with ASTM C920.
- 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 cement plaster stucco industry, with more than 1000 completed cement plaster stucco projects.
- B. Applicator: Approved by BASF Wall Systems in performing work of this section.
- C. Regulatory Requirements: Conform to applicable code requirements for cement plaster stucco.
- 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, [\[x\]](#) [\[feet\]](#) [\[meters\]](#) in size of system materials illustrating method of attachment, Senergy 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, air/water-resistive barrier, rigid insulation, plaster base, stucco base, base coat (if specified), reinforcing mesh (if specified), primer (if specified), finish coat and typical sealant/flashing conditions.
- E. Testing
  - 1. General Air/Water-Resistive Barrier Minimum Performance:

TEST	METHOD	CRITERIA	RESULTS
Water-resistive barrier coatings used under EIFS	ASTM E2570		Meets all performance requirements
Air Leakage of Air Barrier Assemblies	ASTM E2357	0.2 l/(s.m <sup>2</sup> ) @75 Pa (0.04 cfm/ft <sup>2</sup> @ 1.57 psf)	0.0007 l/s.m <sup>2</sup> (0.0001 cfm/ft <sup>2</sup> ) @ 75 Pa (1.57 psf) positive / post conditioning 0.0014 l/s.m <sup>2</sup> (0.0003 cfm/ft <sup>2</sup> ) @ 75 Pa (1.57 psf) negative / post conditioning
Air Permeance of Building Materials	ASTM E2178	0.02 l/(s.m <sup>2</sup> ) @75 Pa (0.004 cfm/ft <sup>2</sup> @ 1.57 psf)	0.0049 l/s.m <sup>2</sup> @ 75 Pa (0.00098 cfm/ft <sup>2</sup> @ 1.57 psf)
Rate of Air Leakage	ASTM E283		0.0185 l/s.m <sup>2</sup> @ 75 Pa (0.0037 cfm/ft <sup>2</sup> @ 1.57 psf)
Water Vapor Transmission	ASTM E96	Report value	Senershield-R - 18 Perms (grains/Hr. in Hg. ft <sup>2</sup> ) @ 10 mils wet film thickness Senershield-RS - 18 Perms (grains/Hr. in Hg. ft <sup>2</sup> ) @ 12 mils wet film thickness Senershield-R/RS - 14 Perms (grains/Hr. in Hg. ft <sup>2</sup> ) @ 20 mils wet film thickness Senershield-VB - 0.09 Perms (grains/Hr. in Hg. ft <sup>2</sup> ) @ 26 mils wet film thickness
Pull-Off Strength of Coatings	ASTM D4541	Min. 110 kPa (15.9 psi) or substrate failure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood; PVC and galvanized flashing
Nail Sealability (without Sheathing Fabric)	ASTM D1970	No water penetration at galvanized roofing nail penetration under 127 mm (5") head of water after 3 days at 4° C (40° F)	Pass
Surface Burning	ASTM E84	Flame Spread < 25 Smoke Development < 450	Meets Class A: Flame spread =15 Smoke developed = 95

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### 2. Air/Water-Resistive Barrier ICC-ES AC-212:

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing: 1. Structural 2. Racking 3. Restrained Environmental Conditioning 4. Water Penetration	1. ASTM E 1233 Procedure A 2. ASTM E 72 3. ICC-ES AC-212 4. ASTM E 331	No cracking at joints or interface of flashing No water penetration after 15 min @ 137 Pa (2.86 psf)	Pass - Tested over OSB and gypsum sheathing No water penetration after 90 min @ 299 Pa (6.24 psf)
Sequential Testing: 1. UV Light Exposure 2. Accelerated Aging 3. Hydrostatic Pressure Test	1. ICC-ES AC-212 2. ICC-ES AC-212 3. AATCC 127-1985	No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	Pass
Freeze-Thaw	ASTM E 2485 (Method B)	No sign of deleterious effects after 10 cycles	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood
Water Resistance	ASTM D2247	No deleterious effects after 14 day exposure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood
Tensile Bond	ASTM C 297	Minimum 103 kPa (15 psi)	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood, CMU; PVC and galvanized flashing
Tensile Bond (after freeze-thaw)	ASTM C 297	Minimum 103 kPa (15 psi) avg; no failure after 10 cycles freeze-thaw	Pass

### 3. Air/Water-Resistive Barrier ICC-ES AC 148:

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing: 1. UV Light Exposure 2. Accelerated Aging 3. Hydrostatic Pressure Test	1. ICC-ES AC 148 2. ICC-ES AC 148 3. AATCC 127-1985	No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	Pass
Peel Adhesion	ASTM D 3330 Method F	After UV Exposure After Accelerated Aging After Elevated Temperature Exposure After Water Immersion	Pass - tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum
Nail Sealability after Thermal Cycling	ASTM D 1970 (Modified), AAMA 711	No water penetration at galvanized roofing nail penetration under 31 mm (1.2") head of water after 24 hours at 4° C (40° F)	Pass
Tensile Strength after UV Exposure	ASTM D 5034, AAMA 711	Minimum 0.5 N/mm (2.9 lbs/in)	Pass
Cold Temperature Pliability	ASTM D 1970, AAMA 711	No cracking after bending around a 25 mm (1") mandrel after 2 hour exposure to -18° C (0° F)	Pass
Resistance to Peeling	AAMA 711	No signs of distress or failure after 24 hours of exposure at room temperature, 50° C (122° F), 65° C (149° F), 80° C (176° F)	Pass
Surface Burning Characteristics	ASTM E84	Flame spread <25 Smoke developed < 450	Pass
Behavior of materials in a vertical tube furnace at 750° C	ASTM E136	Weight loss of the specimen cannot exceed 50%.	Pass
Freeze Thaw	ICC-ES AC11	No deleterious effects after 10 cycles	Pass

### 4. PLATINUM CI STUCCO PLUS System and Component Performance:

TEST	METHOD	CRITERIA	RESULTS
Drainage Efficiency	ASTM E2273	90% minimum	Meets all performance requirements
Surface Burning	ASTM E84	Flame Spread < 25 Smoke Development < 450	System components meet Class A: Flame spread <25 Smoke developed <450

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Behavior of materials in a vertical tube furnace at 750° C	ASTM E136	Weight loss <50%, no flaming in first 30 seconds	BASF StuccoBase pass
Freeze-thaw resistance	Per ICC-ES acceptance criteria - AC11	10 freeze-thaw cycles with no visible evidence of deterioration when examined under 5X magnification	Pass

### 5. ASTM E330 Wind-Load

Assembly Description	Average Ultimate Loads
3 5/8" 16 GA steel studs 16" OC, 1/2" gypsum sheathing, SENERSHIELD-R/RS/VB, acceptable rigid insulation board, lath, minimum 1/2" BASF StuccoBase	-10.8 kPa (-226 PSF) +11.8 kPa (+226 PSF) * *Positive failure could not be reached. All failures in framing
2" x 4" wood studs 16" OC, 7/16" OSB, SENERSHIELD-R/RS/VB, acceptable rigid insulation board, lath, minimum 1/2" BASF StuccoBase	-10.4 kPa (-218 PSF) +10.9 kPa (+228 PSF) All failures in framing

### 6. NFPA 285 and NFPA 268 Compliant Assemblies:

WALL COMPONENTS	MATERIALS
Base wall system – Use either 1, 2 or 3	1. Concrete wall 2. Concrete Masonry wall 3. 1 layer – 1/2-inch thick, regular or 5/8-inch thick Type X Gypsum wallboard on interior, installed over steel studs: minimum 3 5/8-inch depth, minimum 20-gauge at a maximum of 16-inch OC with lateral bracing every 4- ft. vertically
Floorline Firestopping	4 lb/cu ft. mineral wool (e.g. Thermafiber) in each stud cavity at each floorline – attached with Z-clips or equivalent
Cavity Insulation – Use either 1 or 2	1. None 2. Any noncombustible insulation (faced or unfaced)
Exterior sheathing – Use either 1 or 2	1. 1/2-inch thick, exterior type gypsum sheathing 2. 5/8-inch thick, exterior type gypsum sheathing
Air/water-resistive barrier applied to exterior sheathing	Senergy SENERSHIELD-R/RS/VB
Exterior insulation – Use either 1, 2, 3, 4 or 5	1. Expanded Polystyrene Foam (EPS) – C578 Type II & be Class A per ASTM E84– maximum thickness of 2.5-inches 2. Expanded Polystyrene Foam (EPS) – C578 Type IX & be Class A per ASTM E84– maximum thickness of 1.8-inches 3. BASF Neopor expanded polystyrene foam - C578 Type II & be Class A per ASTM E84– maximum thickness 2.4-inches 4. Extruded Polystyrene Foam (XPS) – C578 Type X or Type IV & be Class A per ASTM E84 – maximum thickness – See Note 1 5. Polyisocyanurate Foam - C1289 compliant & be Class A per ASTM E84 – maximum thickness – see Note 1
Lath	1. BASF PERMALATH 1000 glass fiber lath 2. Metal lath – either 2.5 lb/yd <sup>2</sup> or 3.4 lb/yd <sup>2</sup> 3. Wire lath – either 1 1/2-inch, 20-gauge or 1-inch, 17-gauge
Stucco	BASF StuccoBase - minimum 1/2-inch thick
Finish Coat	Senergy Finish

**NOTE – The potential heat of the foam plastic insulation at the maximum installed thickness must not exceed 4999 Btu/ft<sup>2</sup> as determined in accordance with NFPA 259.**

### 7. ASTM E119 1-hour Fire Resistant Compliant Assembly

WALL COMPONENTS	MATERIALS
Interior gypsum wall board	Any minimum 5/8" thick Type X gypsum wallboard complying with ASTM C1396
Steel Framing	Minimum 3 5/8" deep, minimum 20-gauge steel studs spaced a maximum of 24" on center
Wall cavity insulation - use either 1,2, or 3	1. None 2. Fiberglass batt insulation (faced or unfaced) 3. Mineral wool insulation (faced or unfaced)
Exterior sheathing	Any minimum 5/8" thick Type X exterior sheathing complying with ASTM C1396 and/or ASTM C1177
Air/water-resistive barrier applied to exterior sheathing	Senergy SENERSHIELD-R/RS/VB

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Continuous Insulation	<ol style="list-style-type: none"> <li>1. Expanded Polystyrene Foam (EPS) – C578 Type II &amp; be Class A per ASTM E84– maximum thickness of 2.5-inches</li> <li>2. Expanded Polystyrene Foam (EPS) – C578 Type IX &amp; be Class A per ASTM E84– maximum thickness of 1.8-inches</li> <li>3. BASF Neopor expanded polystyrene foam - C578 Type II &amp; be Class A per ASTM E84– maximum thickness 2.4-inches</li> <li>4. Extruded Polystyrene Foam (XPS) – C578 Type X or Type IV &amp; be Class A per ASTM E84 – maximum thickness</li> <li>5. Polyisocyanurate Foam - C1289 compliant &amp; be Class A per ASTM E84 – maximum thickness – see Note 1</li> </ol>
Lath - use either 1,2, or 3	<ol style="list-style-type: none"> <li>1. BASF PERMALATH 1000 glass fiber lath</li> <li>2. Metal lath – either 2.5 lb/yd<sup>2</sup> or 3.4 lb/yd<sup>2</sup></li> <li>3. Wire lath – either 1 1/2-inch, 20-gauge or 1-inch, 17-gauge</li> </ol>
Stucco	BASF Stucco Base - minimum 1/2-inch thick
Finish Coat	Senergy Finish

### 1.06 DELIVERY, STORAGE AND HANDLING

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

### 1.07 PROJECT/SITE CONDITIONS

- Do not apply BASF Wall Systems / Senergy materials 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.
- Do not apply BASF Wall Systems / Senergy materials to frozen surfaces.
- 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 Senergy PLATINUM CI STUCCO PLUS wall system installation and until dry.

### 1.08 SEQUENCING AND SCHEDULING

- Coordinate and schedule installation of Senergy PLATINUM CI STUCCO PLUS wall system with related work of other sections.
- Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.

### 1.09 WARRANTY

- Provide BASF Wall Systems material warranty for Senergy PLATINUM CI STUCCO PLUS wall system installations under provisions of Section [01 70 00]. Reference Senergy's *Warranty Schedule* technical bulletin for specific information.
- Comply with BASF Wall Systems notification procedures to assure qualification for warranty.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- Senergy PLATINUM CI STUCCO PLUS wall system manufactured by BASF Wall Systems.



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## 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 BASF Wall Systems Technical Service Department for further assistance.**

### A. Air/Water-Resistive Barrier Components:

1. Air/Water-Resistive Barrier: **(Required, Select One)**
  - a. SENERSHIELD-R: A one-component fluid-applied vapor permeable air/water-resistive barrier.
  - b. SENERSHIELD-RS: A one-component fluid-applied vapor permeable air/water-resistive barrier for use with airless spray equipment.
  - c. SENERSHIELD-VB: A one-component fluid-applied vapor impermeable air/water-resistive barrier.
2. Rough Opening and Joint Treatment: **(Required, Select a or b)**
  - a. SHEATHING FABRIC: A spun-bonded non-woven reinforced polyester web for use with Senergy fluid applied air/weather-resistive barriers.
  - b. MAXFLASH: A one-component elastomeric material for use as a flexible flashing membrane.
3. Transitional Membrane / Expansion Joint Flashing (If selected, both a & b are required)
  - a. WS FLASH: 30-mil thick, self-sealing, self-healing composite membrane of polyester fabric and rubberized asphalt. Compatible with Senergy liquid air/weather resistive barriers.
  - b. FLASHING PRIMER: A water-based primer for use prior to application of WS FLASH on all acceptable surfaces.
4. Cold Temperature Additive:  
LT ADDITIVE: Blending of LT ADDITIVE with a pail of SENERSHIELD-R/RS/VB enables application of these materials at temperatures as low as -4°C (25°F).

### B. Insulation Board: (Required, Select One)

1. Expanded polystyrene; ASTM C578, Type II.
  - a. Flame spread less than 25, smoke developed less than 450 per ASTM E84, UL 723.
  - b. Flexural: 35 psi, compressive: 15 psi, minimum thermal resistance 4.17/inch at 75°F (24°C) 4.55/inch at 40°F (4°C).
  - c. Minimum density 1.35 lb/ft<sup>3</sup> (18.42 kg/m<sup>3</sup>)
  - d. Minimum thickness as indicated on drawings minimum 3/4" (19 mm).
  - e. Air-dried (aged) six weeks, or equivalent, prior to installation.
  - f. Edges: square within 1/32" per ft. (0.8 mm per m).
  - g. Thickness: tolerance of +/- 1/16" (1.6 mm).
  - h. Maximum Size: 2' x 8' (61 cm x 2.44 m x 10 cm).
  - i. Length and width: tolerance of +/- 1/16" (1.6 mm).
2. NEOPOR® Rigid Insulation Board: thermal resistance values R5, R 7.5, R10 or custom thickness, meets ASTM C578 Type II
  - a. Flame spread less than 25, smoke development less than 450 ASTM E84,
  - b. Flexural: 40 psi, compressive: 20 psi, minimum thermal resistance 4.6/inch at 75°F (24°C) 4.9/inch at 40°F (4°C).
  - c. Minimum density 1.45 pcf (23.2 Kg/m<sup>3</sup>).
  - d. Air-dried (aged) six weeks, or equivalent, prior to installation.
  - e. Maximum size 2' x 8' (61 cm x 2.44 m x 10 cm).
  - f. Edges square within 1/32"/ft. (.08mm/0.3m)
  - g. Tolerance width 24" (+/-) 1/16" (61cm (+/-) 1.6mm) and length 96" (+/-) 1/8" (2.44m (+/-) 3mm).
3. Extruded polystyrene; ASTM C578, Type IV.
  - a. Flame spread less than 25, smoke developed less than 450 per ASTM E84, UL 723.
  - b. Flexural: 50 psi, compressive: 25 psi, minimum thermal resistance 5/inch at 75°F (24°C) 4.55/inch at 40°F (4°C).
  - c. Minimum density 1.55 lb./ft<sup>3</sup> (25 kg/m<sup>3</sup>)
  - d. Minimum thickness as indicated on drawings minimum 19 mm (3/4").
  - e. Air-dried (aged) six weeks, or equivalent, prior to installation.
  - f. Edges: square within 1/32" per ft. (0.8 mm per m).
  - g. Thickness: tolerance of +/- 1/16" (1.6 mm).
  - h. Maximum Size: 2' x 8' (61 cm x 2.44 m x 10 cm).
  - i. Length and width: tolerance of +/- 1/16" (1.6 mm).

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4. Polyisocyanurate insulation board
  - a. Nominal density 32 kg/m<sup>3</sup> (2 lbs. /ft<sup>3</sup>).
  - b. Minimum thickness as indicated on drawings 25mm (1").
  - c. 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.
  - d. Edges: Square within 4 mm (3/16") (1.22 m x 2.44 m / 4' x 8').
  - e. Thickness: tolerance of less than 1.6 mm (1/16") (25 mm / 1" thick).
  - f. Length: Tolerance of plus or minus 6 mm (1/4") (1.22 m x 2.44 m / 4' x 8').
  - g. Width: Tolerance of plus or minus 1.6 mm (1/16") (1.22 m x 2.44 m / 4' x 8').
- C. **Decorative Shapes: (Optional)** Expanded polystyrene; ASTM C578, Type I or II; Minimum thickness 3/4" (19 mm)
- D. **Lath/Plaster Base: (Required, Select One)**  
**NOTE TO SPECIFIER: Ensure selection of the appropriate Lath based on specified thickness of the Senergy PLATINUM CI STUCCO PLUS wall system. Delete those products not utilized. Reference Senergy Lath & Trim Accessories System support bulletin for additional information.**
  1. BASF PERMALATH 1000: An open weave, three-dimensional self-furring, nominal 1/4" thick glass fiber reinforcing lath is for use with a minimum thickness of 12.7mm (1/2"). Complies with ASTM C1764, C1787 and C1788.
  2. Woven or Welded Wire Lath: A minimum No. 20 gauge, 25.4 mm (1") galvanized woven wire fabric is for use with 9.5-12.7mm (3/8"-1/2") thickness only. Other laths shall comply with ASTM C933 (welded) and ASTM C1032 (woven). The lath is self-furred or furred when applied over all substrates.
  3. Expanded Metal Lath: The lath shall comply with ASTM C847. Furring and self-furring requirements shall be as set forth for wire lath. Minimum weight is 1.36 kg/m<sup>2</sup> (2.5 lbs./yd<sup>2</sup>). Refer to ASTM C 1063 for additional information.
- E. **Fastening for Rigid Insulation Board and Lath/Plaster Base: (Required, Select One or More)**
  1. Masonry: Minimum 3/16" (4.7mm) diameter corrosion resistant masonry Wind-lock type MT fastener with Wind-lock ULP 302 washer, Lath Plates or equal with 3/4" (19 mm) minimum penetration into masonry.
  2. Steel framing (minimum 20 ga (33 mil): Minimum # 8 or greater corrosion resistant screw with Wind-lock ULP 302 washer, Lath Plate or equal with 5/8" (16 mm) minimum penetration into framing.
  3. Wood framing: Minimum 3mm (.120") shank corrosion resistant nail 6.9mm (.271") head with Wind-lock ULP 302 washer, Lath Plate or equal with minimum 1 1/4" (31.8mm) penetration into framing or minimum # 8 corrosion resistant wood screw with Wind-lock ULP 302 washer, Lath Plate or equal with minimum 1" (25mm) penetration into framing.
- F. **BASF Stucco Base Coat: (Required, Select One)**
  1. BASF STUCCOBASE: Factory-blended stucco mixture of Portland cement, reinforcing fibers, and proprietary ingredients; supplied by BASF Wall Systems.
  2. BASF STUCCOBASE PREMIX: Factory-blended stucco mixture of Portland cement, reinforcing fibers, sand, and proprietary ingredients; supplied by BASF Wall Systems.
- G. **Plaster Sand: (Required if BASF STUCCOBASE is retained)** Must be clean and free from deleterious amounts of loam, clay, silt, soluble salts and organic matter. Sampling and testing must comply with ASTM C897. Plaster sand must be graded within the following limits: Percent retained by weight.

### Retained on ± 2 Percent

U.S. Standard Sieve	Minimum	Maximum
No. 4		0
No. 8	0	10
No. 16	10	40
No. 30	30	65
No. 50	70	90
No. 100	95	100

- H. **Water:** Clean and potable without foreign matter.
- I. **Senergy Adhesive/Base Coat: (Required for Trim Shapes and Reinforcing Mesh)**

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1. ALPHA Base Coat: A 100% acrylic 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.
- J. Portland cement: (Required if ALPHA BASE is Selected)** Conform to ASTM C150, Type I, II, or I/II, grey or white; fresh and free of lumps.
- K. BASF DIAMONDSHIELD Stucco Reinforcing Mesh:** A balanced, open-grid triaxial glass fiber mesh that distributes stress across three directions for superior crack resistance properties on new or retrofit stucco applications.
- L. Senergy FLEXGUARD 4 Reinforcing Mesh:** (Required if EPS Trim Shapes Are Specified) A 4 oz. balanced, open-weave glass, fiber reinforcing mesh, twisted multi-end strands treated for compatibility with Senergy Base Coats
- M. BASF STUCCOPRIME Primer:** A 100% acrylic-based primer; color [ ] to closely match the selected Senergy Finish Color.  
**NOTE TO SPECIFIER: BASF STUCCOPRIME is recommended for CLASSIC finish texture and required for AURORA TC-100, AURORA STONE and ALUMINA finishes. Although optional in other applications, Senergy highly recommends the use of BASF STUCCOPRIME prior to application of Senergy Finish over applications of Senergy PLATINUM CI STUCCO PLUS wall system “brown coat”. The application of BASF STUCCOPRIME will enhance color uniformity, performance and ease Senergy Finish application and will minimize the likelihood of read-through.**
- N. 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. COARSE: 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.
    - c. FINE: Utilizes uniformly-sized aggregates for a uniform, fine texture.
    - d. TEXTURE: Can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
    - e. SAHARA: Provides a uniform, “pebble” appearance.
  2. SENERLASTIC Finish: 100% acrylic based, textured elastomeric finish that provides excellent flexibility, weatherability, and maximum resistance to mildew growth, 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. COARSE: 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.
    - c. FINE: Utilizes uniformly-sized aggregates for a uniform, fine texture.
    - d. TEXTURE: Can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
    - e. SAHARA: Provides a uniform, “pebble” appearance.
  3. 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.
  4. BASF 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 multiple colors.
    - b. METALLIC: Has a pearlescent appearance. It utilizes uniformly-sized aggregates for a uniform fine texture.

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- c. [AURORA TC-100: Provides a stone-like appearance, either rough or smooth depending upon application.](#)
- d. [AURORA STONE: Provides a rough, stone-like appearance.](#)
- e. [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.](#)
- 5. [BASF 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](#)
- O. [BASF ANTICOGLAZE Glaze/Stain: A 100% acrylic antiquing stain product used to impart an 'old world' mottled look to textured finishes.](#)

### 2.03 ACCESSORIES

**Trim:** Casing bead, corner bead, expansion joint and weep screed accessories shall meet the requirements of ASTM C1063. Accessories shall be: vinyl, meeting ASTM D1784; galvanized, meeting ASTM A525 and ASTM A526; or zinc, meeting ASTM B69. Vinyl or zinc accessories are recommended where highly humid or salt-laden service conditions exist. Refer to Senergy's *Stucco Wall Systems Lath and Trim Accessories* technical bulletin for additional information.

1. C-I Weep Track by Clark Dietrich or AMICO: For returning insulated stucco into doors windows, etc.
2. Foundation weep screed: Beveled edge designed to terminate finish system and drain internal moisture.
3. Casing bead: Square edge style.
4. Corner bead: Small radius nose style.
5. Control joints: W-shaped accordion profile style.
6. Expansion joints: [[Two-piece slip-joint design](#)] or [[pair of casing beads spaced for application of sealant bead](#)].

## PART 3 - EXECUTION

### 3.01 EXAMINATION

**A.** Verify project site conditions under provisions of Section [01 89 00][ ].

**B. Walls:**

1. Substrates:
4. 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 DensGlass™ and DensElement (sheathing only) eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, Weather Defense™ Platinum sheathing, and GreenGlass® sheathing; gypsum sheathing (ASTM C79/C1396); Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB or Huber ZIP (sheathing only).
  - a. Consult the BASF Wall Systems' Technical Services department for all other applications.
  - b. Sheathings must be securely fastened per applicable building code requirements and manufacturers recommendations.
  - c. When applying Senergy Air/Water-Resistive Barriers to concrete/unit masonry, verify concrete/unit masonry is free of dust, dirt, grease, oils, laitance, efflorescence, biological residue, existing paint or coatings, curing compounds, form release agents, or any other contaminants which might affect the bond. Masonry walls should be properly cured to full load bearing capacity, laid true, and with joints tooled. Properly prepared concrete will have an open texture similar to fine grit sandpaper.
  - d. Examine surfaces to receive system 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 1/4" in 10' (6 mm in 3 m).
2. Flashings:

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- 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. Openings must be flashed prior to window/door, HVAC, etc. installation. Refer to *Secondary Moisture Protection Barrier Guidelines for Senergy Stucco Wall System* technical bulletin or *Air/Water-Resistive/Vapor Barrier Application Guidelines* technical bulletin for further guidance.
  - c. Windows and openings shall be flashed per 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: 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. Refer to Senergy PLATINUM CI STUCCO PLUS wall system typical details.
- 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 Senergy PLATINUM CI STUCCO PLUS wall system.
- B. 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 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.**

#### A. 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. Cold Temperature Additive: LT ADDITIVE: Pour the entire contents of one (1) bottle of LT ADDITIVE into one (1) full pail of SENERSHIELD-R, SENERSHIELD-RS or SENERSHIELD-VB. Mix with a clean, rust-free paddle and drill until fully blended.

#### B. BASF Stucco Base Coat:

1. BASF STUCCOBASE: Use mixer which is clean and free of foreign substances. Add 5-6 gallons (18.9-22.7 liters) of clean potable water to mixer per one bag of BASF STUCCOBASE. Add one bag of BASF STUCCOBASE and one half 100-120 lbs. (45.4-54.4 kg) of the required plaster sand (ASTM C144 or ASTM C897). Mix for 3-4 minutes at normal mixing speed while adding the remainder 100-120 lbs. (45.4-54.4 kg) of the plaster sand. Allow material to set for 2-4 minutes and then remix adding water to achieve desired consistency. Desired consistency varies with type of application (trowel or gun), substrate (paper-backed lath or block) and whether the stucco is applied to a wall or a ceiling. **Note: Continuous mixing may cause excessive air entrainment.**
2. BASF STUCCOBASE PREMIX: Use mixer which is clean and free of foreign substances. Add 2-2.5 gallons (7.6-9.5 liters) of clean potable water to mixer. Slowly add one bag of BASF STUCCOBASE PREMIX. Mix for one minute at normal mixing speed. Allow material to set for 2-4 minutes with mixing blades at rest. Then re-mix, adding water to achieve desired consistency. Desired consistency varies with type of application (trowel or gun), substrate (paper-backed lath or block) and whether the stucco is applied to a wall or a ceiling. Note: Continuous mixing may cause excessive air entrainment.

#### C. 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. ALPHA DRY Base Coat: Mix and prepare each bag in a 19-liter (5-gallon) pail. Fill the container with approximately 5.6-liters (1.5-gallons) of clean, potable water. Add ALPHA DRY Base Coat in

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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.

**D. BASF STUCCOPRIME 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.

**E. Senergy Finishes:**

1. SENERFLEX, SENERLASIC, 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.

**F. Specialty Finish:**

1. AURORA TC-100, AURORA STONE, and 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.

### 3.04 APPLICATION

**A. Accessories:**

1. 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.**

**B. Air/Water-Resistive Barrier:**

1. All sheathing joints and windows/openings must be protected, and the air/water-resistive barrier applied in accordance with *Air/Water-Resistive/Vapor Barrier Application Guideline* technical bulletin.
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 1/4" in 10' (6.4 mm in 3 m).
3. Unsatisfactory conditions shall be corrected before application of the Senergy air/water-resistive barriers.
4. Apply the SHEATHING FABRIC and Senergy air/water-resistive barrier in accordance with the Senergy air/water-resistive barrier product bulletin.
5. Apply the BASF MAXFLASH in accordance with BASF MAXFLASH product bulletin.
6. Installed materials shall be checked before continuing system application.
7. Ensure SHEATHING FABRIC Senergy air/water-resistive barrier or BASF MAXFLASH overlaps the top flange of the starter track.
8. Installed materials shall be checked before continuing system application.

**C. Insulation Board:**

1. Vertical surfaces: Begin at base of wall with firm temporary support
2. Apply horizontally in running bond pattern.
3. Precut insulation board to fit openings and projections and install as a single piece around corners of openings. Stagger vertical joints and corners. Stagger insulation board and sheathing joints.
4. Abut all joints and ensure an overall flush surface.
5. With appropriate fastening system, temporarily secure insulation board with minimum two fasteners per board.
6. Rasp flush any irregularities that would interfere with proper application of lath.

**D. Trim:**

Refer to Senergy *Stucco Wall Systems Lath and Trim Accessories* technical bulletin.

**NOTE TO SPECIFIER: It is the sole responsibility of the project design team, including the architect, engineer, etc., to ultimately determine specific expansion and control joint placement, width and design.**

**E. Lath:** Install in accordance with all local code requirements, applicable standards and application procedures

1. BASF PERMALATH 1000:

- a. Apply with minimum 3" (76mm) overlap at vertical and horizontal edges and overlap on flange of trim accessories. PERMALATH 1000 can be applied horizontally or vertically and should be

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applied such that it is flat and free of ripples, wrinkles, etc. Fastener System type appropriate for application and substrate. Fastener spacing 6" o.c. (152 mm) vertically and 16" o.c. (406 mm) horizontally.

- b. Apply BASF STUCCOBASE within 60 days of BASF PERMALATH 1000 application.
2. Woven/Welded Wire Lath:
  - a. Wire or lath shall be applied with minimum 1" (25 mm) end laps and side laps.
  - b. Furring crimps shall occur at maximum 6" (152 mm) intervals each way.
  - c. Refer to ASTM C1063 for additional fastening information.
3. Expanded Metal Lath
  - a. The metal lath shall be applied with minimum 1/2" (13 mm) side laps and 1" (25 mm) end laps.
  - b. When end laps occur between supports, lace or wire ties the ends of the sheets with 0.0475" (1.2 mm) galvanized annealed steel wire.
  - c. Refer to ASTM C1063 for additional fastening information.

**NOTE: Supplemental fasteners, in the framing or sheathing, can be used to secure lath prior to application of BASF STUCCOBASE.**

### F. Stucco Base Coat:

1. Senergy PLATINUM CI STUCCO PLUS wall system application 3/8"–1/2" thickness (9.5-12.7 mm).
  - a. Following surface preparation and installation of the lath and accessories apply selected BASF stucco base mixture to the approved substrate by hand troweling or machine spraying to a thickness of 3/8" to 1/2" (9.5-12.77 mm), completely embedding the lath.
  - b. Use rod and darby to level the applied base coat without exposing the lath.
  - c. After initial set begins and surface has sufficiently hardened, use sponge or hard rubber float as required to fill voids, holes or imperfections, leaving the surface ready to receive Senergy Finish.
  - d. At subcontractor's option, the double back method of application, whereby the first and second coats are applied and cured as one system, may be used. If this system is used, the second coat (brown) should be applied as soon as the first coat is rigid.
  - e. Damp cure for at least 48 hours by lightly and evenly fogging the surface with water at least twice a day. Direct sunlight, hot temperatures, low humidity and windy conditions may make additional fogging necessary.
  - f. Allow BASF stucco base to cure a minimum of 6 days prior to application of EPS board shapes, Senergy Base Coat, BASF STUCCOPRIME or Senergy Finish application.
2. Senergy PLATINUM CI STUCCO PLUS wall system application 3/4"–7/8" thickness (19-22mm).
  - a. Nominal plaster base coat thickness:
    - i. First coat "scratch": 3/8" (9.5mm)
    - ii. Second coat "brown": 3/8" (9.5mm)
  - b. Apply selected BASF stucco base mixture to the approved substrate by hand troweling or machine spraying with sufficient force to develop full adhesion between BASF stucco base mixture and the substrate.
  - c. Apply first coat to completely embed lath. Cross rake to provide key for second brown coat. Coat must be uniform in thickness. Ensure the first coat is properly "scratched" and sufficiently rigid to resist cracking prior to application and leveling of the second or "brown" coat.
  - d. Dampen scratch coat, apply second brown coat to provide the required total thickness. Trowel BASF stucco base into trim to seat trim. The lath shall be fully embedded in the coating and shall be completely covered. Coat must be uniform in thickness. Rod off to desired thickness, leveled with screeds, to provide a true, flat plane. Follow this by wood floating or darbying the surface.
  - e. After the surface has sufficiently hardened, use sponge or hard rubber float as required to fill voids, holes or imperfections, leaving the surface ready to receive Senergy Finish.
  - f. Damp cure for at least 48 hours by lightly and evenly fogging the surface with water at least twice a day. Direct sunlight, hot temperatures, low humidity and wind may make additional fogging necessary.
  - g. Allow BASF stucco base to cure a minimum of 6 days prior to application of EPS board shapes, Senergy Base Coat, BASF STUCCOPRIME or Senergy Finish application.

### G. Senergy Adhesive/Base Coat:

**NOTE TO SPECIFIER: If specifying the use of reinforcing mesh, move on to the next step and delete H from this section of the specification.**

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1. Apply a skim coat of Senergy Base Coat, approximately 1/16" (1.6mm) thick to properly cured "brown coat" of stucco base.
2. Allow to dry hard (normally 8 to 10 hours).

### **H. BASF DIAMONDSHIELD Reinforcing Mesh:**

1. Base coat shall be applied to achieve reinforcing mesh embedment with no reinforcing mesh color visible.
2. Install BASF DIAMONDSHIELD over properly cured Senergy PLATINUM CI STUCCO PLUS wall system "brown coat" of stucco base.
3. Apply mixed Senergy Base Coat to entire surface of "brown coat" with a stainless-steel trowel to embed the reinforcing mesh.
4. Immediately place BASF DIAMONDSHIELD Reinforcing Mesh against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
5. Lap reinforcing mesh 2 1/2" (64 mm) minimum at edges.
6. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
7. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1/16" (1.6 mm).
8. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).

### **I. Decorative Shapes:**

1. Apply mixed Senergy Base Coat to entire surface of insulation board using a stainless-steel trowel with 1/2"x 1/2" (13mm x 13mm) notches spaced 1/2" (13mm) apart or 3/8"x 3/8" (10mm x 10mm) notches spaced 3/8" (10 mm) apart.
2. Immediately set shape 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.
3. Abut all joints tightly and ensure overall flush level surface.
4. Check adhesion periodically by removing a shape prior to set. Properly installed shapes will be difficult to remove and Senergy Adhesive/Base Coat will be adhered to both the BASF Stucco Base and the shape.
5. Fill 1/16" (1.6mm) and larger gaps between shapes with slivers of insulation board.
6. Allow application of shapes to dry (normally 8 to 10 hours) prior to application of base coat/reinforcing mesh.
7. Rasp flush any irregularities of the shapes greater than 1/16" (1.6 mm). Senergy Base Coat / Reinforcing Mesh: Base coat shall be applied to achieve reinforcing mesh embedment with no reinforcing mesh color visible.
8. For Senergy FLEXGUARD 4, apply Senergy Base Coat to entire surface of insulation board with a stainless-steel trowel to embed the reinforcing mesh.
9. Immediately place Senergy 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.
10. Lap reinforcing mesh 2 1/2" (64 mm) minimum at edges and 3" (75 mm) minimum onto BASF STUCCOBASE.
11. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
12. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1/16" (1.6 mm).
13. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).

### **J. BASF STUCCO PRIME:**

1. Base coat shall be clean, dry, sound and free of paint, contaminants or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than 1/4" in 10' (6.4 mm in 3 m).
2. Apply BASF STUCCO PRIME to substrate with a sprayer, 3/8" (10 mm) nap roller, or good quality latex paint brush at a rate of approximately 150–250 ft<sup>2</sup> per gallon (3.6-6.1 m<sup>2</sup> per liter).
3. BASF STUCCO PRIME shall be dry to the touch before proceeding to the Senergy Finish application.

### **K. Senergy Finish Coat: SENERFLEX, SENERLASTIC, SENERFLEX TERSUS and CHROMA.**

1. Apply Senergy Finish directly to the 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.



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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.

### L. Specialty Finish:

1. AURORA TC-100 Finish:
  - a. Apply BASF STUCCOPRIME to substrate in accordance with current BASF STUCCOPRIME product bulletin.
  - b. BASF STUCCOPRIME shall be of corresponding color for selected AURORA TC-100 Finish color. Allow BASF STUCCOPRIME to dry to the touch before proceeding to AURORA TC-100 Finish application.
  - c. Apply a tight coat of finish with a clean, stainless steel trowel.
  - d. Maintain a wet edge on finish by applying and leveling continually over the wall surface.
  - e. 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.
  - f. For a smooth appearance, use a stainless-steel trowel and apply the second coat of finish. Achieve final texture using circular motions.
  - g. For a textured appearance, apply the second coat of finish using a spray gun and hopper. Double-back to achieve final texture.
  - h. Total thickness of finish shall be approximately 1/16" (1.6 mm).
2. AURORA STONE Finish:
  - a. Apply BASF STUCCOPRIME to substrate in accordance with current BASF STUCCOPRIME product bulletin.
  - b. BASF STUCCOPRIME shall be of corresponding color for selected AURORA STONE Finish color. Allow BASF STUCCOPRIME to dry to the touch before proceeding to AURORA STONE Finish application.
  - c. 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.
  - d. Allow first coat of AURORA STONE Finish to set until surface is completely dry prior to applying a second coat of AURORA STONE Finish.
  - e. Apply a second coat of AURORA STONE Finish using a spray gun and hopper; double back to achieve final texture.
  - f. Thickness of AURORA STONE Finish may vary between 1/16" (1.6 mm) and 1/8" (3.2 mm), depending upon texture.

**Note: Spraying of AURORA STONE shall be in the same manner and direction and by the same 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.**

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

**M. BASF ANTICOGLAZE:** Apply BASF Wall System's ANTICOGLAZE in accordance with recommendations contained in current product literature.

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### **3.05 CLEANING**

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

### **3.06 PROTECTION**

- A. Protect BASF STUCCOBASE from rain, snow and frost for 48-72 hours following application.
- B. Protect Senergy base coat, air/water-resistive barriers, primer and finish from rain and temperatures below 40°F (4°C) for 24 hours or until dry.
- C. Protect installed construction under provisions of Section [01 76 00] [ ].

**END OF SECTION**

## **Senergy Platinum CI Stucco Plus Wall System**

### **WARRANTY**

BASF 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. **BASF 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 BASF. In the absence of an extended warranty issued by BASF, 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. **BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.**

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third-party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.