Senergy® Cement-Board Stucco 1000 System with MaxGrip Veneer Mortar – Section 072423

High-impact resistant, water-managed wall system incorporating a cement-board core, reinforced base coat and adhered veneer finish.

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 CBS 1000 Wall System with MaxGrip Veneer Mortar
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 of span under positive or negative design loads.
2. Design for wind load in conformance with local code requirements.

B. Substrate Systems
1. This specification is intended for applications on cement-board, ASTM C1325 Type A Exterior, minimum 1/2" substrates, over the following sheathing that are first applied over the framing and which may be required to satisfy structural requirements and/or fire resistive construction requirements: ASTM C1177 type sheathing, including, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing and DensGlass® exterior sheathing, gypsum sheathing (ASTM C79/C1396); Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB.
2. The substrate systems shall be engineered with regard to structural performance by others.

C. Moisture Control
1. Prevent the accumulation of water behind the CBS 1000 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.
   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. System Joints
1. 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. Locate expansion joints and other sealant filled joints where indicated and approved by designer. Detail specific locations in construction drawings.
2. Locate control joints approximately every 600 ft.2 (56 m2) of wall surface area with maximum uncontrolled length or width of 24 lin. ft. (7 m) and a maximum uncontrolled length-to-width ratio of 2 1/2:1. Do not saw cut joints after installing adhered veneer units. If building expansion/contraction is anticipated, a true expansion joint should be utilized. For additional information reference the Senergy Cement Board 1000 Trim Accessories technical bulletin.
3. Sealant joints are required at all penetrations through the CBS 1000 Wall System (windows, doors, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.). Refer to CBS 1000 Wall System with MaxGrip Veneer Mortar typical details.
   **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 CBS 1000 system (windows, doors, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.). Refer to Senergy CBS 1000 wall system typical details.
4. For a list of acceptable sealants refer to Acceptable Sealants for use with Senergy Wall Systems technical bulletin.

E. Grade Condition
1. CBS 1000 System with MaxGrip Veneer Mortar is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure. Ensure a minimum 4” (101.6mm) clearance above grade or as required by code, a minimum 2” (50.8mm) clearance above finished grade (sidewalk/concrete flatwork).

F. 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 an air seal 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 protection of rough openings in accordance with **Senergy Moisture Protection Guidelines for Senergy Stucco Wall System** before installing windows, doors, and other penetrations through the wall.
4. Install copings, sealant and other weather protective items immediately after installation of the CBS 1000 Wall System and when Senergy coatings are completely dry.

**TECHNICAL INFORMATION**
PART 1 – GENERAL
NOTE TO SPECIFIER: Items in blue/underlined indicated a system option or choice of options. Throughout the specification, delete those which are not required or utilized.

1.01 SECTION INCLUDES
A. Refer to all 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.  
B. Cement Board Stucco wall system: composite wall system consisting of Senergy air/water resistive barrier or other code approved secondary air/weather barrier, BASF Drainage Mat (optional), Senergy Base Coat, Senergy Reinforcing Mesh and Senergy 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 Senergy Cement Board Stucco (CBS) 1000 wall system with MaxGrip Veneer Mortar as manufactured by BASF Wall Systems, Shakopee, Minnesota.

1.02 RELATED SECTIONS
A. Section 05 40 00 Cold-formed metal framing: Light gauge load-bearing metal framing  
B. Section 06 00 10 Plywood Substrate  
C. Section 06 11 00 Wood Framing  
D. Section 07 19 50 Air Barriers  
E. Section 07 62 00 Sheet Metal Flashing and Trim: Perimeter Flashings  
F. Section 07 65 00 Flexible Flashing  
G. Section 07 90 00 Sealants  
H. Section 08 00 00 Doors and windows  
I. Section 09 10 00 Metal Support Systems  
J. Section 09 11 00 Non-load-bearing wall framing: Non-load-bearing metal framing systems  
K. Section 09 25 00 Exterior Gypsum substrates

1.03 REFERENCES
B. ASTM D1682 Test for Break Load and Elongation of Textile Fabrics.  
D. ASTM G23 Operating Light and Water Exposure Apparatus (Carbon-Arc Type) for Exposure of Nonmetallic Materials.  
E. ASTM G53 Operating Light and Water Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials.  
F. ASTM C67 Sampling and Testing Brick and Structural Clay Tile.  
I. FS TT-C-555B Coating Textured for Interior and Exterior Masonry Surfaces.  
K. Mil. Std. 810B Mildew Resistance (Method 508)  
L. ASTM E96 Water Vapor Transmission (Method B)  
M. ICC-ES AC51 Acceptance Criteria for Precast Stone Veneer  
N. ACI 530-02/ASCE 5-02/TMS 402-02 Building Code Requirements for Masonry Structures  
O. ANSI A108.01 General Requirements: Sub-surfaces and Preparations by Other Trades.  
P. ANSI A108.02 General Requirements: Materials, Environmental, and Workmanship.  
Q. ANSI A108.10 Installation of Grout in Stonework.  
R. ANSI A118.4 Specifications for Latex-Portland Cement Mortar.  
S. ANSI A118.10 Specifications for Load Bearing, Bonded, Waterproof Membranes for Stone Installations  
T. ANSI A137.1 Specification for Ceramic Tile  
U. ASTM C1088 Standard Specification for Thin Veneer Brick Units  
V. ASTM C1670 Standard Specification for Adhered Manufactured Stone Masonry Veneer (AMSMV) Units
1.04 DEFINITIONS
Senergy CBS 1000 System with MaxGrip Veneer Mortar: Exterior assembly comprised of Senergy air/water-resistive barrier, BASF Drainage Mat (optional), Senergy Base Coat, Senergy Reinforcing Mesh and BASF MaxGrip Veneer Mortar with an adhered veneer.

1.05 SUBMITTALS
A. Submit under provisions of Section [01300] [01340].
B. Product Data: Provide data on Senergy CBS 1000 System materials, product characteristics, performance criteria, limitations and durability.
C. Shop Drawings: Indicate wall joint pattern and joint details, thickness, and installation details.
D. Certificate: System manufacturer's approval of applicator.
E. Sealant: Sealant manufacturer's certificate of compliance with ASTM C920.
F. 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.

1.06 QUALITY ASSURANCE
A. Manufacturer: More than 10 years in the EIFS industry, with more than 1000 completed cement board stucco projects.
B. Applicator: Approved by BASF Wall Systems in performing work of this section.
C. Regulatory Requirements: Conform to applicable code requirements for finish system.
D. Field Samples:
   1. Provide under provisions of Section [01400] [ ].
   2. Prepare each sample panel using the same tools and techniques to be used for the actual application.
   3. Locate sample panel where directed.
   4. Accepted sample panel [may] [may not] remain as part of the work.
   5. Field samples shall be comprised of all wall assembly components including substrates, air/water-resistive barrier, BASF Drainage Mat (if specified), base coat, reinforcing mesh, MAXGRIP VENEER MORTAR, adhered veneer and typical sealant/flashing conditions.
E. Testing:
   1. General Air/Water-Resistive Barrier Minimum Performance:

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water-resistive barrier coatings used under EIFS</td>
<td>ASTM E2570</td>
<td></td>
<td>Meets all performance requirements</td>
</tr>
<tr>
<td>Air Leakage of Air Barrier Assemblies</td>
<td>ASTM E2357</td>
<td>0.2 l/(s.m²) @ 75 Pa (0.04 cfm/ft² @ 1.57 psi)</td>
<td>0.0007 l/s.m² (0.0001 cfm/ft²) @ 75 Pa (1.57 psf) positive / post conditioning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.0014 l/s.m² (0.0003 cfm/ft²) @ 75 Pa (1.57 psf) negative / post conditioning</td>
</tr>
<tr>
<td>Air Permeance of Building Materials</td>
<td>ASTM E2178</td>
<td>0.02 l/(s.m²) @ 75 Pa (0.004 cfm/ft² @ 1.57 psi)</td>
<td>0.0049 l/s.m² @ 75 Pa (0.00098 cfm/ft² @ 1.57 psi)</td>
</tr>
<tr>
<td>Rate of Air Leakage</td>
<td>ASTM E283</td>
<td></td>
<td>0.0185 l/s·m² @ 75 Pa (0.0037 cfm/ft² @ 1.57 psi)</td>
</tr>
<tr>
<td>Water Vapor Transmission</td>
<td>ASTM E96</td>
<td>Report value</td>
<td>Senershield-R - 18 Perms (grains/Hr. in Hg. ft²) @ 10 mils wet film thickness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Senershield-RS 18 Perms (grains/Hr. in Hg. ft²) @ 12 mils wet film thickness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Senershield-R/RS - 14 Perms (grains/Hr. in Hg. ft²) @ 20 mils wet film thickness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Senershield-VB - 0.09 Perms (grains/Hr. in Hg. ft²) @ 26 mils wet film thickness</td>
</tr>
<tr>
<td>Pull-Off Strength of Coatings</td>
<td>ASTM D4541</td>
<td>Min. 110 kPa (15.9 psi) or substrate failure</td>
<td>Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood; pvc and galvanized flashing</td>
</tr>
<tr>
<td>Nail Sealability (without Sheathing Fabric)</td>
<td>ASTM D1970</td>
<td>No water penetration at galvanized roofing nail penetration under 127 mm (5”) head of water after 3 days at 4° C (40° F)</td>
<td>Pass</td>
</tr>
<tr>
<td>Surface Burning</td>
<td>ASTM E84</td>
<td>Flame Spread &lt; 25 Smoke Development &lt; 450</td>
<td>Meets Class A: Flame spread =15 Smoke developed = 95</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequential Testing: 1. Structural 2. Load Testing 3. Water Resistance</td>
<td>ASTM E 1233 Procedure A ASTM E 72</td>
<td>No cracking at joints or interface of flashing No water penetration after 15 min @ 137 Pa (2.88 psf)</td>
<td>Pass - Tested over OSB and gypsum sheathing No water penetration after 90 min @ 299 Pa (6.24 psf)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze-Thaw</td>
<td>ASTM E 2485 (Method B)</td>
<td>No sign of deleterious effects after 10 cycles</td>
<td>Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Resistance</td>
<td>ASTM D 2247</td>
<td>No deleterious effects after 14 day exposure</td>
<td>Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Bond</td>
<td>ASTM C 297</td>
<td>Minimum 103 kPa (15 psi)</td>
<td>Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood, CMU, pvc and galvanized flashing</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
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<th>RESULTS</th>
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<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nail Sealability after Thermal Cycling</td>
<td>ASTM D 1970 (Modified), AAMA 711</td>
<td>No water penetration at galvanized roofing nail penetration under 31 mm (1.2&quot;) head of water after 24 hours at 4° C (40° F)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength after UV Exposure</td>
<td>ASTM D 5034, AAMA 711</td>
<td>Minimum 0.5 N/mm (2.9 lbs/in)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Temperature Pliability</td>
<td>ASTM D 1970, AAMA 711</td>
<td>No cracking after bending around a 25 mm (1&quot;) mandrel after 2 hour exposure to -18° C (0° F)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to Peeling</td>
<td>AAMA 711</td>
<td>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)</td>
<td>Pass</td>
</tr>
</tbody>
</table>

4. CBS 1000 System and Component Performance:

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct-Applied Exterior Finish Systems (DEFs)</td>
<td>ICC-ES AC59</td>
<td>Meets all performance requirements</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse Wind-load</td>
<td>ASTM E330</td>
<td>Steel stud framing (16 gauge, 3 5/8&quot;) @ 16&quot;o.c.</td>
<td>Average ultimate loads¹: 2585 Pa (- 54 psf) 1053 Pa (+ 22 psf) not taken to failure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
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<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse Wind-load</td>
<td>ASTM E330</td>
<td>Steel stud framing (20 gauge, 3 5/8&quot;) @ 16&quot;o.c.,</td>
<td>Average ultimate loads¹: 1676 Pa (- 35 psf) 862 Pa (+ 18 psf) not taken to failure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse Wind-load</td>
<td>ASTM E330</td>
<td>Wood assembly (2” x 4”) @ 16”o.c.</td>
<td>Average ultimate loads¹: 2681 Pa (- 56 psf) 1197 Pa (+ 25 psf) not taken to failure</td>
</tr>
</tbody>
</table>

¹ Average ultimate loads are calculated based on the performance criteria provided by the respective standards or methods used in the testing.
# Senergy CBS 1000 Wall System with MaxGrip Veneer Mortar

<table>
<thead>
<tr>
<th>Bond Strength after Accelerated Weathering and Freeze-thaw Test</th>
<th>AC59</th>
<th>Minimum 34.3 kPa (5 psi)</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racking Test</td>
<td>ASTM E72</td>
<td>No failure of finish at substrate joints before failure of substrate OR no failure at 1&quot; net deflection</td>
<td>Pass</td>
</tr>
<tr>
<td>Restrained Environmental Cycling Test</td>
<td>AC59</td>
<td>No cracking of finish or other distress after 5 cycles of water spray (24 hrs.) and radiant heat (72 hrs.)</td>
<td>Pass</td>
</tr>
<tr>
<td>Water Penetration</td>
<td>ASTM E 331</td>
<td>No water penetration after 15 minutes @ 137 Pa (2.86 psf)</td>
<td>Pass</td>
</tr>
<tr>
<td>Radiant Heat Exposure</td>
<td>NFPA 268</td>
<td>No ignition at 20 minutes</td>
<td>Met test criteria.</td>
</tr>
<tr>
<td>Fire Endurance</td>
<td>ASTM E119</td>
<td>Maintain fire resistance of existing rated assembly</td>
<td>2-hour rating</td>
</tr>
</tbody>
</table>
| Intermediate Scale Multi-story Fire Test | NFPA 285 / UBC Standard 26-9 | 1. Resist flame propagation over the exterior surface  
2. Resist vertical spread of flame within combustible core/component of panel from one story to the next  
3. Resist vertical spread of flame over the interior surface from one story to the next  
4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces | Met test criteria |
| Surface Burning      | ASTM E84 / UL 723 | Flame spread < 25 Smoke developed < 450 | All components of the system meet Class A performance (FS < 25; SD < 450) |
| Abrasion Resistance  | ASTM D968 | No Cracking or loss of film integrity at 528 qt. (500L) of sand | Finish Coat not worn through after 686 liters of falling sand |
| Accelerated Weathering | ASTM G 153 (formerly G23) | No deleterious effects after 2000 hours. | Pass |
| Freeze-Thaw          | AC59 | No deleterious effects after 10 cycles | Pass 60 cycles |
| Midew Resistance     | Mil Std 810B Method 508 | No fungus growth after 28 days | Pass |
| Salt Fog Resistance  | ASTM B117 | No deleterious effects after 300 hours | Pass |
| Water Resistance     | ASTM D 2247 | No deleterious effects after 14 days exposure | Pass |

1. No failure in the Senergy materials; failure in framing and/or sheathing connections; framing members shall be designed to comply with strength and stiffness requirements of the applicable code.

## 5. BASF MAXGRIP VENEER MORTAR:

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td>ASTM C 109</td>
<td>4000 PSI</td>
<td></td>
</tr>
<tr>
<td>Freeze-Thaw</td>
<td>ASTM C 666</td>
<td>modified using full IVS composite in place of concrete beam</td>
<td>Pass</td>
</tr>
</tbody>
</table>

## 6. Reinforcing Mesh Testing:

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkali Resistance</td>
<td>ASTM E 2098</td>
<td>Greater than 120 pli (21 dN/CM) retained tensile strength</td>
<td>Pass (all mesh)</td>
</tr>
</tbody>
</table>

## 1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle products under provisions of Section [01 65 00] [01 66 00].
B. Deliver CBS 1000 materials in original unopened packages with manufacturer’s labels intact.
C. Protect CBS 1000 materials during transportation and installation to avoid physical damage.
D. Store CBS 1000 materials in cool, dry place protected from freezing.
E. Store MAXFLASH at a minimum of 40°F. In cold weather, keep containers at room temperature for at least 24 hours before using.
Senergy CBS 1000 Wall System with MaxGrip Veneer Mortar

F. Store Senergy Reinforcing Mesh, BASF SHEATHING FABRIC and WS FLASH flexible flashing in cool, dry place protected from exposure to moisture.

1.08 PROJECT/SITE CONDITIONS
A. Do not apply Senergy CBS 1000 system materials in ambient temperatures below 40°F/4°C. Provide properly vented, supplementary heat during installation and drying period when temperatures less than 40°F/4°C prevail.
B. Do not apply Senergy materials to frozen or wet/damp surfaces.
C. Maintain ambient temperature at or above 40°F/4°C during and at least 24 hours after Senergy materials are installation and until dry.

1.09 SEQUENCING AND SCHEDULING
A. Coordinate and schedule installation of Senergy CBS 1000 System with MaxGrip Veneer Mortar with related work of other sections.
B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the System.
C. Coordinate and schedule installation of air/weather barrier, windows, doors, AC units etc.

1.10 WARRANTY
A. Provide BASF Wall Systems material warranty for Senergy CBS 1000 System with MaxGrip Veneer Mortar installations under provisions of Section [01 70 00]. Reference Senergy Warranty Schedule technical bulletin for specific information.
B. Comply with BASF Wall Systems notification procedures to assure qualification for warranty.

PART 2 - PRODUCTS
2.01 MANUFACTURERS
A. CBS 1000 System manufactured by BASF Corporation

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/Weather-Resistive Barrier Components:

1. Air/Water-Resistive Barrier: (Required, Select a, b or c)
   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 if a b or c is selected above, 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)
   b. FLASHING PRIMER: A water-based primer for use prior to application of WS FLASH on all acceptable surfaces.

4. Cold Temperature Additive:
   a. LT ADDITIVE: Blending of LT ADDITIVE with a pail of SENERSHIELD-R/-RS/-VB enables application of these materials at temperatures as low as 25°F (-4°C).

B. BASF Drainage Mat:
1. BASF DRAINAGE MAT: Three-dimensional drainage core consisting of fused, entangled filaments.

C. Base Coats: (Required, Select One or More)
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.
3. **XTRA-STOP Base Coat:** A 100% acrylic-based, water-resistant base coat, field-mixed with Type I or Type II Portland cement.

**NOTE TO SPECIFIER:** Portland cement is not required if ALPHA DRY Base Coat is specified.

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

### E. Water:
1. Clean and potable without foreign matter.

### F. BASF Reinforcing Mesh:
1. **BASF SELF-ADHERING MESH TAPE:** a standard weight mesh coated with a pressure sensitive adhesive for use with base coat as reinforcement over acceptable sheathing joints, rough openings and at terminations
2. **BASF CORNER MESH:** Intermediate weight, pre-marked for easy bending, for reinforcing at exterior corners.

### G. BASF MAXGRIP VENEER MORTAR:
1. **BASF MAXGRIP VENEER MORTAR:** A high-strength specially formulated adhesive used to fasten manufactured stone, ceramic tile and thin brick

#### 2.03 ACCESSORIES

A. Starter track, L bead, J bead, angled termination bead, casing beads, corner beads, expansion joints and weep screed must comply with ASTM D1784 or C1063 for vinyl.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

#### A. Site Conditions:
1. Verify project site conditions under provisions of Section [01039] [ ].

#### B. Walls:
1. Substrates/Sheathing:
   a. Wall sheathing must be securely fastened per applicable building code and sheathing manufacturer’s requirements.
   b. Examine surfaces to receive Senergy materials and verify that substrate and adjacent materials are dry, clean, sound, and free of releasing agents, paint, or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than 1/4" in 10' (6.4 mm in 3 m).
2. Air/weather Barrier:
   a. Verify that the air/weather barrier is installed over the sheathing per applicable building code requirements, manufacturers’ specifications and Senergy details, prior to application of the Senergy Cement-Board Stucco 1000 System.
3. Cement-Board Substrates:
   a. Acceptable substrates are cement-boards which satisfy ASTM C1325 (Type A, Exterior).
   b. Cement-board must be securely fastened per manufacturers’ recommendations, applicable building code and project requirements.
   c. Walls shall have maximum deflection not to exceed L/360 of span under positive or negative design loads
   d. Cement-board must be a single piece around corners of openings.
   e. Cement-board must be fastened with corrosion resistant fasteners.
   f. Cement-board and sheathing joints must be offset.
4. Flashings:
   a. Head, jamb and sills of all openings must be flashed with secondary air/weather barrier prior to window/door, HVAC, etc. installation. Refer to Senergy Moisture Protection Guidelines.
   b. Windows and openings shall be flashed according to design and building code requirements.
   c. Individual windows that are ganged to make multiple units require that the heads be continuously flashed and/or the joints between the units must be fully sealed.
5. Decks:
   a. Decks must be properly flashed prior to system application.
   b. The system must be terminated a minimum of 1" (25 mm) above all decks, patios and sidewalks, etc.
6. Utilities: The system must be properly terminated at all lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.
7. Roof: Verify that all roof flashings have been installed in accordance with the guidelines set forth by the Asphalt Roofing Manufacturers Association (ARMA).
8. Kick-out flashing must be leak-proof and angled (min 100 degrees) to allow for proper drainage and water diversion.

C. Do not proceed until all unsatisfactory conditions have been corrected.
D. Installation of Senergy CBS 1000 is limited to residential and low rise commercial and institutional construction.
E. Supplemental framing/blocking may be required to secure cement board at vertical control/expansion joints.

3.02 PREPARATION
A. Protect all surrounding areas and surfaces from damage during application of Senergy Cement-Board Stucco 1000 System.
B. Protect finished work at end of each day to prevent water penetration.
C. Prepare substrates in accordance with manufacturer’s instructions.
D. BASF MAXGRIP VENEER MORTAR: All surfaces shall be between 40°F (4°C) and 100°F (38°C). Surfaces shall be clean, free of dirt, oil, grease, paint, concrete sealers or curing compounds, and structurally sound. Ensure that all control and expansion joints are not covered with MAXGRIP VENEER MORTAR. Manufactured stone shall comply with applicable requirements of ICC-ES Acceptance Criteria AC51. Thin brick veneer shall comply with applicable requirements of ASTM C 1088 per the Brick Industry Association.

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/RS/VB. Mix with a clean, rust-free paddle and drill until fully blended.
B. Senergy Base Coat:
   1. ALPHA Base Coat: Mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one-part (by weight) Portland cement with one-part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
   2. ALPHA DRY Base Coat: Mix and prepare each bag in a 5-gallon (19-liter) pail. Fill the container with approximately 1.5-gallons (5.6-liters) of clean, potable water. Add ALPHA DRY Base Coat in small increments, mixing after each additional increment. Mix ALPHA DRY Base Coat and water with a clean, rust-free paddle and drill until thoroughly blended. Additional ALPHA DRY Base Coat or water may be added to adjust workability.
   3. XTRA-STOP Base Coat: Mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one-part (by weight) Portland cement with one-part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
C. BASF MAXGRIP VENEER MORTAR:
   1. Skim Coat: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. 1.0 - 1.25 gallons (3.8 - 4.7 liters) of clean, potable water to a pail. Add a full bag of MAXGRIP VENEER MORTAR to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Let stand for 5 to 10 minutes,
Senergy CBS 1000 Wall System with MaxGrip Veneer Mortar

then remix/retemper for 1 minute before use.

2. Light weight adhered Veneer such as thick brick: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. Add 1.0 - 1.25 gallons (3.8 - 4.7 liters) of clean, potable water to a pail. Add a full bag of MAXGRIP VENEER MORTAR to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Additional water may be added to adjust workability, do not exceed 1.25 gallons. Let stand for 5 to 10 minutes, then remix / retemper for 1 minute before use. The mixed material should have a thick putty consistency and not slide off the trowel when held vertically.

3. Heavy Stone and Tile: Prepare to mix one bag in a 5-gallon (19-liter) pail that is clean and free of foreign substances. Add 0.75 - 1.0 gallons (2.8 - 3.8 liters) of clean, potable water to a pail. Add a full bag of MAXGRIP VENEER MORTAR to the pail in small increments, mixing after each addition. Mix with a low speed drill with a 4-sided mortar paddle until thoroughly blended. Additional water may be added to adjust workability, do not exceed 1 gallon. Let stand for 5 to 10 minutes, then remix / retemper for 1 minute before use. The mixed material should have a thick putty consistency and not slide off the trowel when held vertically.

3.04 APPLICATION

A. Accessories:
1. Attach Window/Door Drip Edge level and per manufacturer’s instructions.
2. Attach starter track per manufacturer’s instructions and Senergy CBS 1000 with MaxGrip Veneer Mortar Typical Details.

B. Senergy 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 ¼” 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 MAXFLASH in accordance with BASF MAXFLASH product bulletin.
6. Installed materials shall be checked before continuing system application.
7. Ensure the Senergy air/water-resistive barrier or MAXFLASH overlaps the top flange of the starter track.

C. BASF DRAINAGE MAT:
1. Apply BASF DRAINAGE MAT horizontally or vertically over Senergy Air/Water-Resistive Barrier ensuring BASF DRAINAGE MAT is free of wrinkles.
2. Abut all vertical and horizontal edge and secure BASF DRAINAGE MAT to substrate with sufficient building staples or galvanized nails to remain in place prior to application of cement board.

D. Cement Board: Install cement board over secondary weather barrier, securely fastened, per manufacturers’ recommendations, applicable building code and project requirements.

E. Trim Accessories: Install per manufacturer’s recommendations. Refer to Senergy’s Cement-Board Stucco Trim and Accessories bulletin for accessory placement.

F. BASF SELF-ADHERING MESH TAPE (4") / Senergy Base Coat:
1. Center the BASF SELF-ADHERING MESH TAPE (4") over all cement board joints and terminations and firmly press while unrolling.
2. Ensure SELF-ADHERING MESH TAPE is continuous, void of wrinkles. Overlap SELF-ADHERING MESH TAPE a minimum 2 1/2" (65 mm).
3. Apply mixed [ ] Base Coat to surface of SELF-ADHERING MESH TAPE by troweling from the center to the edges.
4. Allow Base Coat and SELF-ADHERING MESH TAPE to dry prior to application of BASF MAXGRIP VENEER MORTAR.

G. Senergy CORNER MESH:
1. Install CORNER MESH at corners.
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2. Apply CORNER MESH prior to application of reinforcing mesh.
3. Cut CORNER MESH to workable lengths.
4. Apply mixed Senergy Base Coat to insulation board at outside corners using a stainless-steel trowel.
5. Immediately place CORNER MESH against the wet base coat and embed the CORNER MESH into the base boat by troweling from the corner; butt edges and avoid wrinkles.

H. BASF MAXGRIP – ADHERED VENEER MORTAR:
Note: Allow MaxGrip Veneer Mortar to cure for 24-hours before applying pointing mortar.
Prior to installing the adhered veneer, apply selected Senergy Base Coat or MAXGRIP veneer mortar as a skim coat over cement board sheathing at approximately 1/6” (1.6mm) thick. Apply to an area that can be covered with adhered veneer before the skim coat dries. Allow smit coat layer to set for 3-5 minutes, then proceed with adhering the selected veneer
1. Thin brick veneer: Spread BASF MAXGRIP VENEER MORTAR onto the back of bricks in a continuous layer nominally 3/16” to ¼” (5 - 6mm) thick and press bricks firmly into place on the substrate.
2. Stone veneer: Apply BASF MAXGRIP VENEER MORTAR to the back of clean stone veneer in a continuous layer nominally ¼” to 3/8” (6 - 9mm) thick. Press firmly in place with a twisting movement until excess material exudes from the sides of the unit. Remove excess BASF MAXGRIP VENEER MORTAR between units.
3. Tile: Apply BASF MAXGRIP VENEER MORTAR as a skim coat over cement board at approximately 1/16” (1.6mm) thick. Apply only to an area that can be covered with tile before the MAXGRIP VENEER MORTAR skim coat dries. Installation should proceed in accordance with ANSI A 108.5 (the type and size of the tile will dictate adhesive application.)

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 base coat from rain, snow and frost for 48 - 72 hours following application.
B. Protect installed construction under provisions of Section [01 76 00] [].

END OF SECTION
Senergy CBS 1000 Wall System with MaxGrip Veneer Mortar

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.

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