2.0 DESCRIPTION

1.0 SUBJECT
Superiorwall Exterior Wall and Insulation Stucco System.

2.0 DESCRIPTION

2.1 General:
Superiorwall fiber-reinforced stucco system is a proprietary mixture of portland cement, sand, fibers, water and proprietary ingredients reinforced with wire fabric or metal lath and applied to substrates of expanded polystyrene (EPS) insulation board, gypsum sheathing, fiberboard or plywood. The system is installed on exterior walls of wood or steel-stud construction.

2.2 Materials:

2.2.1 Superiorwall Concentrate: A factory-prepared mixture of Type I or II portland cement complying with UBC Standard 19-1, chopped Type E glass fibers or polypropylene fibers and proprietary additives. The mixture is packaged in 80-pound (36 kg) bags. Approximately 5 to 6 gallons (19 to 22.7 L) of water and 300 pounds (135 kg) of sand complying with Section 2.2.4 are added to each bag in the field and mixed in accordance with the manufacturer’s recommendations.

2.2.2 Superiorwall Sanded Exterior: A factory-prepared mixture of Type I or II portland cement complying with UBC (1997 Uniform Building Code™) Standard 19-1, sand complying with Section 2.2.4 and proprietary additives. The mixture is packaged in 80-pound (36 kg) bags. Approximately 2 gallons (7.6 L) of water are added to each bag in the field and mixed in accordance with manufacturer’s recommendations.

2.2.3 Foam Tite Concentrate: A factory-prepared mixture of Type I or II portland cement complying with ASTM C150, chopped Type E glass fibers or polypropylene fibers and proprietary additives. The mixture is packaged in 80-pound (36 kg) bags. Approximately 5 to 6 gallons (19 to 22.7 L) of water and 200 pounds (88.6 kg) of sand complying with Section 2.2.4 are added to each bag in the field and mixed in accordance with the manufacturer’s instructions.

2.2.4 Sand: Sand must be clean and free from deleterious amounts of loam, clay, silt, soluble salts and organic matter.

2.2.5 Expanded Polystyrene Insulation Board: The EPS insulation boards must have a minimum nominal density of 1.5 pounds per cubic foot, a 1-inch to 1 1/2-inch (25.4 mm to 38 mm) thickness, a Class 1 flame-spread classification and a smoke-developed rating not exceeding 450. Boards installed without sheathing, over open framing, must be provided with 5/8-inch-high (9.5 mm) tongues and compatible grooves for horizontal joints. See Figure 2 for joint detail. All insulation boards must be recognized in a current ICC-ES evaluation report. See Section 2.6 for board identification.

2.2.6 Lath:

2.2.6.1 Wire Fabric Lath: Wire fabric lath must comply with the ICC-ES Acceptance Criteria for Metal Plaster Bases (Lath) (AC191). Minimum No. 20 gage (0.035 inch (0.89 mm)), 1-inch galvanized steel, woven-wire fabric must be used. Lath must be furred when applied over all substrates except unbacked polystyrene board. Furring must comply with the following requirements:

1. When maximum total coating thickness is 1/2 inch (12.7 mm) or less, the body of the lath must be furred a minimum of 1/8 inch (3.2 mm) from the substrate after installation.

2. When maximum total coating thickness is 1/2 inch (12.7 mm) or less, the body of the lath must be furred a minimum of 1/8 inch (3.2 mm) from the substrate after installation.

2.2.6.2 Metal Lath: Metal lath must comply with AC191 and UBC Table 25-B. Furring requirements are as set forth in Section 2.2.6.1.

2.2.7 Gypsum Sheathing Board: Water-resistant core gypsum sheathing complying with ASTM C79-92.

2.2.8 Fiberboard: Minimum 1/2-inch-thick (12.7 mm) asphalt-impregnated fiberboard complying with ANSI/AHA A 194.1-1985 as a regular-density sheathing.

### Table: Sand Grading Requirements

<table>
<thead>
<tr>
<th>STANDARDS SIEVE</th>
<th>PERCENT RETAINED BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>No. 4 (7.6 mm)</td>
<td>0</td>
</tr>
<tr>
<td>No. 8 (2.36 mm)</td>
<td>0</td>
</tr>
<tr>
<td>No. 16 (1.18 mm)</td>
<td>10</td>
</tr>
<tr>
<td>No. 30 (700)</td>
<td>30</td>
</tr>
<tr>
<td>No. 50 (300)</td>
<td>70</td>
</tr>
<tr>
<td>No. 100 (150)</td>
<td>95</td>
</tr>
</tbody>
</table>

Sampling and testing must comply with ASTM C144-93. Sand must be graded in accordance with ASTM C144-93 within the following limits.
2.2.9 Wood Structural Panels: Minimum 5/16-inch-thick (7.9 mm) plywood or OSB with exterior glue for studs spaced 16 inches (406 mm) on center, and minimum 1/2-inch-thick (9.5 mm) plywood with exterior glue for studs spaced 24 inches (610 mm) on center. Plywood complies with UBC Standard 23-2; OSB complies with UBC Standard 23-3.

2.2.10 Caulking: Acrylic latex caulking material complying with ASTM C834.

2.2.11 Weather-resistant Barrier: Minimum Grade D kraft building paper complying with UBC Standard 14-1, or asphalt-saturated rag felt complying with UL Standard 55-A, is required. The weather-resistive barrier is placed over all substrates except for EPS insulation board where the barrier may be behind the board. Application of the barrier must comply with Section 1402.1 of the UBC. When applied over any wood-based sheathing, the barrier must be either a minimum two layers of Grade D building paper as set forth in Section 2506.4 of the UBC; or one layer of EPS insulation board, having horizontal tongue-and-groove edges as described in Section 2.2.5 of this report, over one layer of Grade D building paper having a minimum water resistance rating of 60 minutes.

2.2.12 Fibers: Polypropylene fibers 1/2 inch (12.7 mm) long, and chopped Type E glass fibers, 1/4 to 1/2 inch (6.4 to 12.7 mm) long, are used to prevent sagging of coating during application.

2.2.13 Admixture: Proprietary ingredients added to improve quality of the coating mixture.

2.2.14 Miscellaneous: All trim, screeds and corner reinforcement must be galvanized steel or approved plastic.

2.2.15 Finish Coat: Carson's Acrylic Coating finish coat is an acrylic emulsion binder with aggregate and a proprietary adhesive. The product is packaged in 5-gallon (19 L) pails and can be applied to either the Superiorwall or Foam Tite stucco materials, but is not permitted to be used in fire-resistant construction described in Section 2.4. The total thickness of the base coat and finish coat is limited to 1/8 inch (12.7 mm) for 1-inch by No. 20 gage woven wire and limited in thickness to that specified in Table 25-F of the UBC for 1/2-inch by No. 17 gage woven wire.

2.3 Installation:

2.3.1 General: The exterior cementitious coating is applied by troweling in one coat to a minimum 3/8-inch (9.5 mm) thickness. The lath must be embedded in the minimum coating thickness and therefore cannot be exposed. Fasteners for lath must penetrate 1 inch (25.4 mm), minimum, into wood studs. Flashing, corner reinforcement, metal trim and weep screeds must be installed as shown in attached details. See Figure 1. The coating is applied at ambient temperatures ranging from 40°F to 110°F (4.4°C to 43.3°C) by applicators approved by Stucco Supply Co. of San Jose. The weather-resistive barrier is applied as set forth in Section 2.2.11. An installation card such as noted in Figure 3 must be on the jobsite with the name of the applicator and the product to be used, before any weather-resistive barrier or exterior sheathing is installed. Also, see Section 4.6 of this report.

2.3.2 Application Over Open Framing—EPS Insulation Board: The weather-resistive barrier is placed over open wood studs spaced 24 inches (610 mm) on center, maximum.

The EPS insulation board described in Section 2.2.5 is placed horizontally with tongues faced upward, and is temporarily held in place with galvanized staples or roofing nails. Vertical butt joints are staggered a minimum of one stud space from adjacent courses and occur directly over studs.

The lath is applied tightly over the EPS insulation board and fastened through the board to wood studs, using No. 11 gage galvanized roofing nails with 1/8-inch-diameter (9.5 mm) heads or No. 16 gage galvanized staples spaced 6 inches (152 mm) on center with a minimum 1-inch (25.4 mm) penetration. Staples must have minimum crown width of 1/4 inch (12.7 mm). Stapling is permitted only in Group II wood species with a specific gravity of 0.5 or greater. Care must be taken to avoid over-driving fasteners. The lath is applied with 1 1/2-inch (38 mm) end laps and sidelaps.

Wall bracing in accordance with Section 2326.11.3 or 2326.11.4 of the UBC, or acceptable alternate, is required. Outside wall corners and parapet corners are covered with extra metal corner reinforcement. Weep screeds must comply with, and be installed at the bottom of the wall in accordance with Section 2506.5 of the UBC. One-and-three-eighths-inch (35 mm), No. 22 gage galvanized steel, J-shaped trim pieces, are installed at other areas where EPS insulation board is exposed. At windows and doors, butting J trim metal edges must be caulked. Holes for hose bibbs, electrical panels and other penetrations of substrate surfaces, except those caused by fasteners, must also be caulked. The coating is then applied as described in Section 2.3.1.

2.3.3 Application Over Solid Backing:

2.3.3.1 Fiberboard: Minimum 1/2-inch-thick (12.7 mm) fiberboard sheathing is installed directly over wood studs, spaced a maximum of 24 inches (610 mm) on center. The fiberboard is temporarily held in place using corrosion-resistant staples or roofing nails. A weather-resistive barrier of two layers of Grade D building paper is applied over the fiberboard prior to application of the lath. EPS insulation board may be placed over the weather-resistive barrier prior to application of the lath. An alternate installation consists of one layer of EPS insulation board, having horizontal tongue-and-groove edges, as described in Section 2.2.5 of this report, over one layer of Grade D building paper having a minimum water resistance rating of 60 minutes, placed over the fiberboard prior to application of the lath. The lath is attached to studs through the sheathing, with fasteners and spacing as described for insulation board in Section 2.3.2 of this report or Table 23-I-Q of the UBC, whichever is more restrictive. All walls must be braced in accordance with the code. Exposed sheathing edges are protected with screeds. Holes in the substrate surface are caulked, and coating is applied as described in Section 2.3.1.

2.3.3.2 Wood Structural Panels: Wood structural panels are applied directly to wood studs under conditions as set forth in Section 2.2.9 of this report and Table 23-IV-D-1 of the UBC. The weather-resistive barrier, wire-fabric lath and coating are applied as described for fiberboard.

2.3.3.3 Gypsum Sheathing: Minimum 1/2-inch-thick (12.7 mm), water-resistant core gypsum sheathing is installed directly on wood studs in a manner similar to the installation over fiberboard. The sheathing is fastened in accordance with Table 25-G of the UBC. The system may also be applied to minimum 0.032-inch-thick (No. 20 gage) (0.813 mm) steel studs spaced at 16 inches (406 mm) on center. System application is similar to that for wood studs, except No. 8, 0.409-inch-head-diameter (10.4 mm), minimum 3/16-inch-long (30.2 mm), self-tapping screws, spaced at 6 inches (152 mm) on center, secure the sheathing. A weather-resistive barrier is required over the
gypsum sheathing prior to installation of the lath and coating as described in Section 2.3.2. EPS insulation board may be installed over the weather-resistive barrier prior to the installation of lath and coating. Lath is secured with No. 8, 0.409-inch-head-diameter (10.4 mm), minimum 1 1/4-inch-long (32 mm), self-tapping wafer-head screws spaced 6 inches (152 mm) on center. Screw penetration is 1/4 inch (6.4 mm), minimum, beyond the stud. All walls must be braced in accordance with the UBC.

2.4 One-hour Fire-resistive Assembly:

2.4.1 Interior Face: One layer of 5/8-inch-thick (15.9 mm), Type X gypsum wallboard, water-resistant backerboard or veneer base is applied parallel or at right angles to the interior face of 2-by-4 wood studs spaced 24 inches (610 mm) on center, maximum. The wallboard is attached with 6d coated nails, 1/2 inch (48 mm) long, with a 1/4-inch-diameter (6.4 mm) head, at 7 inches on center to studs, plates and blocking. All wallboard joints must be backed with minimum 2-by-4 wood framing, taped and treated with joint compound. Fastener heads must be treated with joint compound.

2.4.2 Exterior Face: One layer of minimum 5/8-inch-thick (15.9 mm), Type X, water-resistant core, treated gypsum sheathing, 48 inches (1219 mm) wide, is applied parallel to studs with No. 11 gage, galvanized roofing nails, 1 3/4 inches (44.5 mm) long, with 1/16th or 1/8-inch-diameter (11.1 or 12.7 mm) heads at 4 inches (102 mm) on center at board perimeter and 7 inches (178 mm) on center at intermediate studs. The sheathing is nailed to top and bottom plates at 7 inches (178 mm) on center. A weather-resistive barrier is required over the sheathing. The lath and wall coating are then applied as described in Section 2.3.2.

2.5 Miscellaneous:

2.5.1 Inspection Requirements: Building department inspection is required on lath installation prior to application of the coating as noted in Section 108.5. of the code.

2.5.2 Control Joints: Control joints must be installed as specified by the architect, designer, builder or exterior coating manufacturer, in that order. In the absence of details, conventional three-coat plastering details must be used.

2.5.3 Curing: Moist curing must be provided for 24 hours after coating application.

2.5.4 Soffits: The system may be applied to soffits, provided the coating is applied over metal lath complying with Table 25-B of the UBC in lieu of wire-fabric lath. Metal lath fastening must comply with Table 25-C, except the length must be increased by the thickness of any substrate.

2.5.5 Sills: The system may be applied to sills at locations such as windows and other similar areas. Sill with depths of 6 inches (152 mm) or less may have the coating and lath applied to any substrate permitted in this report, provided the coating, lath, weather-resistive barrier and substrate are installed in accordance with the appropriate section of this report. Sills with depths exceeding 6 inches (152 mm) must have substrates of solid wood or plywood. The substrate is fastened in accordance with Table 23-I-Q of the UBC, and a double layer of a complying weather-resistive barrier is applied over the substrate. The coating, lath and optional EPS insulation board are applied in accordance with Section 2.3.2 of this report.

2.6 Identification:

2.6.1 The factory-prepared mixes are delivered to the jobsite in water-resistant bags with labels bearing the following information:

1. Name and address of manufacturer (Stucco Supply Co. of San Jose) and evaluation report number (ICBO ES ER-5043).
2. Identification of components.
3. Weight of packaged mix.
4. Storage instructions.
5. Maximum amount of water and other components that may be added and conditions that must be considered in determining actual amounts.
6. Curing instructions.
7. Polystyrene EPS insulation boards are identified in accordance with their respective ICC-ES evaluation reports. Additionally, the board density must be noted.

2.6.2 The report holder’s contact information is the following:

STUCCO SUPPLY CO. OF SAN JOSE
1601 LITTLE ORCHARD STREET, SUITE E
SAN JOSE, CALIFORNIA 95110

3.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Interim Criteria for Cementitious Exterior Wall Coatings (AC11), dated September 2002.

4.0 FINDINGS

That the Superiorwall Exterior Wall and Insulation Stucco System described in this report complies with the 1997 Uniform Building Code™ (UBC), subject to the following conditions:

4.1 Material and methods of installation comply with this report and the manufacturer’s instructions.
4.2 Installation is by contractors approved by the manufacturer.
4.3 System is confined to Type V construction.
4.4 System is recognized as a one-hour fire-resistive assembly when complying with Section 2.4 of this report. The design stress for the system described in Section 2.4.1 is limited to 0.78F_{nc} and the maximum stress may not exceed 0.78F_{nc} at a maximum I/d ratio of 33.
4.5 Interior of the building is separated from the foam plastic insulation board with a thermal barrier complying with Section 2602 of the code, such as 1/2-inch (12.7 mm) regular gypsum wallboard applied in accordance with Table 25-G of the UBC.
4.6 An installation card as shown in Figure 3 is left at the jobsite for the owner, and a copy is filed with the building department.
4.7 Allowable wind load on the system with wood studs at 24 inches (610 mm) on center is 22 psf (1050 Pa) positive and 28 psf (1340 Pa) negative. Supporting framing must be adequate to resist the required wind load.
4.8 Allowable wind load on the system with metal studs at 16 inches (406 mm) on center over solid gypsum sheathing substrate is 49 psf (2350 Pa) positive or negative.
For SI: 1 inch = 25.4 mm.

FIGURE 1—TYPICAL DETAILS

NOTE: WEATHER-RESISTIVE BARRIER IS USED UNDER FOAM AND OVER ALL OTHER SUBSTRATES.

DO NOT OVERSET FASTENERS INTO FOAM.

For SI: 1 inch = 25.4 mm.

FIGURE 2—TYPICAL DETAILS
FIGURE 3

The field batching and mixing of all components of the exterior wall coating at the address noted above have been continuously inspected. The field batching and mixing have been found to comply with current Evaluation Report ER-________ and approved plans.

This is to certify that the above-noted inspector, approved by Stucco Supply Co. of San Jose, was authorized to inspect the project so noted and was trained to properly discharge his duties.*

Signature of employee or officer of report holder

Signer’s name (print): ____________________________

Date: ____________________________

*Signature required only if inspector is not an employee of evaluation report holder.

FIGURE 4

DECLARATION

SUPERIORWALL EXTERIOR WALL STUCCO SYSTEM
STUCCO SUPPLY CO. OF SAN JOSE

Project Address: ____________________________ Date:  

The field batching and mixing of all components of the exterior wall coating at the address noted above have been continuously inspected. The field batching and mixing have been found to comply with current Evaluation Report ER-_______ and approved plans.

Authorized inspector’s signature ____________________________

Authorized inspector’s name (print) ____________________________

Employer’s name ____________________________

Employer’s address ____________________________ Telephone No. ________________

This is to certify that the above-noted inspector, approved by Stucco Supply Co. of San Jose, was authorized to inspect the project so noted and was trained to properly discharge his duties.*

Signature of employee or officer of report holder

Signer’s name (print): ____________________________

Date: ____________________________

*Signature required only if inspector is not an employee of evaluation report holder.