



ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

Legacy report on the 1997 Uniform Building Code™

DIVISION: 09—FINISHES
Section: 09220—Portland Cement Plaster

PROWALL ONE-COAT STUCCO SYSTEM

PROWALL BUILDING PRODUCTS, INC.
POST OFFICE BOX 348
OXNARD, CALIFORNIA 93032

1.0 SUBJECT

Prowall One-coat Stucco System.

2.0 DESCRIPTION

2.1 General:

The ProWall One-coat Stucco System is a proprietary mixture of portland cement, sand, Hi-Fibe™ P-1510 alkali resistance polypropylene fibers (ICBO ES ER-4791) and proprietary ingredients, reinforced with wire fabric or metal lath and applied to substrates of expanded polystyrene (EPS) insulation board, gypsum sheathing board, fiberboard or plywood. The system is installed on exterior walls of wood or steel stud construction.

2.2 Materials:

2.2.1 Prowall One-coat Stucco: The stucco is a factory-prepared mixture of Type I or II portland cement complying with ASTM C 150, 3/8-inch-long (9.5 mm) Hi-Fibe P-1510 fibers and proprietary additives. The mixture is packaged in regular 80-pound (36.3 kg) bags. Three and one-half to five and one-half gallons (17.03 to 20.82 L) of water and 220 to 240 pounds (99.88 to 108.84 kg) of sand are added to each bag in the field and mixed in accordance with the manufacturer's recommendations. A premix may be blended at a batching plant and delivered with sand in a bulk-mixer to the jobsite and field-mixed with water, under the following conditions:

- 1. The bulk-mixer bears an identification label stating the ProWall Building Products, Inc., name and address, the batch plant name and address, the product name, and ICBO ES ER-5205.
2. A signed certificate from the batching plant accompanies each batch, specifying the plant name, contractor's name, jobsite address, date, materials batched, quantity, and curing instructions. The ratio of batched amounts must be 220-240 pounds (99.88-108.84 kg) of sand to 80 pounds (36.3 kg) of mixture.

3. Procedures are in place to prevent tampering in controlling the amount of mixture and sand combined.

2.2.2 Sand: The sand must be clean and free from deleterious amounts of loam, clay, silt, soluble salts, and organic matter. Sampling and testing must comply with ASTM C 144. Sand must be graded within the following limits:

Table with 3 columns: RETAINED ON U.S. STANDARD SIEVE, PERCENT RETAINED BY WEIGHT BY PERCENT (Min.), and Max. Rows include sieve numbers 4, 8, 16, 30, 50, and 100 with corresponding percentage values.

2.2.3 Insulation Board: Expanded polystyrene (EPS) insulation board has a nominal minimum density of 1.0 pound per cubic foot (16.01 kg/m³), a Class I flame-spread classification, and a smoke-developed rating not exceeding 450. Unbacked boards are 1 to 1 1/2 inches (25 to 38 mm) thick and have 3/8-inch-high (9.5 mm) tongues with compatible grooves for horizontal joints. See Figure 1 for joint detail. All boards must have recognition in a current ICBO ES evaluation report. Alternatively, ProWall EPS boards are manufactured by an EPS molder under independent quality control audits by RADCO (AA-650). See Section 2.6 for board identification.

2.2.4 Lath:

2.2.4.1 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 total coating thickness is greater than 1/2 inch (12.7 mm), No. 17 gage [0.058 inch (1.47 mm)] by 1 1/2-inch (38 mm) woven-wire fabric lath must be used. The body of the lath must be furred a minimum of 1/4 inch (6.4 mm) from the substrate after installation.

*Revised July 2006

ICC-ES legacy reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



2.2.4.2 Metal Lath: Metal lath must comply with AC191 and UBC Table 25-B. Furring requirements are as set forth in Section 2.2.4.1.

2.2.5 Gypsum Sheathing Board: Water-resistant-core gypsum sheathing complying with ASTM C 79.

2.2.6 Fiberboard: Minimum $\frac{1}{2}$ -inch-thick (12.7 mm) asphalt-impregnated fiberboard complying with ANSI/AHA A194.1-1985 as a regular density sheathing.

2.2.7 Plywood: Minimum $\frac{5}{16}$ -inch-thick (7.9 mm) plywood with exterior glue for studs spaced 16 inches (406 mm) on center, and minimum $\frac{3}{8}$ -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.

2.2.8 Caulking: Acrylic latex caulking materials complying with ASTM C 834.

2.2.9 Weather-resistive Barrier: Minimum Grade D kraft building paper complying with UBC Standard 14-1, or asphalt-saturated rag felt complying with UL Standard 55A. The weather-resistive barrier is required over all substrates except EPS board, where the barrier may be behind the board. Application of the barrier complies with Section 1402.1 of the code. When applied over any wood-based sheathing, the barrier must be a minimum two layers of Grade D building paper as set forth in Section 2506.4 of the UBC.

2.2.10 Fibers: Hi-Fibe P-1510 $\frac{3}{8}$ -inch (9.5 mm) alkali-resistant polypropylene fibers, recognized in ICBO ES ER-4791, are used for short-term benefits during initial curing.

2.2.11 Admixtures: Proprietary ingredients are added to improve quality of the coating mixture.

2.2.12 Miscellaneous: All trim, screeds and corner reinforcements must be of galvanized steel or approved plastic.

2.3 Installation:

2.3.1 General: The exterior cementitious coating is applied by hand-troweling or machine-spraying in one coat to a thickness of $\frac{3}{8}$ to $\frac{1}{2}$ inch (9.5 to 12.7 mm). The lath must be embedded in the minimum coating thickness and therefore cannot be exposed. The finish coat, if used, must be applied within 72 hours after the base coat, unless the latter is sprayed/brushed with an acrylic-bonding adhesive or a bonding treatment is added to the finish-coat stucco mix prior to application. Fasteners for lath must penetrate a minimum of 1 inch (25.4 mm) into wood studs. Flashing, corner reinforcement, metal trim, and weep screeds must be installed as shown in Figure 2. The coating must be applied at an ambient air temperature range from 40° to 120°F (4° to 49°C) by Pro-Wall Building Products, Inc., approved applicators. The weather-resistive barrier must be applied as set forth in Section 2.2.9 of this report. An installation card, as illustrated in Figure 3, must be on the jobsite, bearing 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: Insulation Board: The weather-resistive barrier is placed over open wood studs spaced 24 inches (610 mm) on center, maximum.

The EPS board, described in Section 2.2.3, is then placed horizontally with tongues faced upward and is temporarily held in place with galvanized staples or roofing nails. Vertical butt joints must be staggered a minimum of one stud space from adjacent courses and must occur directly over studs.

The lath is then applied tightly over the polystyrene board and fastened through the board to wood studs with No. 11 gage galvanized roofing nails or No. 15 gage galvanized

staples spaced 6 inches (152 mm) on center, with a minimum 1-inch (25.4 mm) penetration. Staples must have a minimum crown width of $\frac{7}{16}$ inch (11 mm). Stapling is permitted only in wood species with specific gravity of 0.50 or greater. Care must be taken to avoid over-driving fasteners.

The Prowall One-coat Stucco System may also be applied to minimum No. 20 gage [0.0359 inch (0.91 mm) base metal thickness] steel galvanized studs spaced 24 inches (610 mm) on center, maximum. The lath is applied tightly over the polystyrene board and fastened through the board and weather-resistive barrier to the metal studs with No. 6 Type S screws spaced 6 inches (152 mm) on center. Screw-head diameter is 0.435 inch (11 mm). The screws must be long enough to penetrate the studs and track $\frac{1}{4}$ inch (6.4 mm), with a $1\frac{1}{4}$ -inch (32 mm) minimum length. The lath is applied with $1\frac{1}{2}$ -inch (38 mm) laps at all joints.

Wall bracing is required in accordance with Section 2320.11.3 or 2320.11.4 of the UBC, or acceptable alternate. Outside wall corners and parapet corners are covered with extra metal corner reinforcement. Weep screeds are installed at the bottom of the wall in accordance with Section 2506.4 of the code. Galvanized steel $1\frac{3}{8}$ -inch (35 mm) J-shaped trim pieces are installed at other areas where foam is exposed. At windows and doors, butting J-trim metal edges must be caulked. Holes for hose bibs, electrical panels, and other penetrations of substrate surfaces, except those caused by fasteners, must also be caulked. The coating is applied after caulking as described in Section 2.3.1 of this report.

2.3.3 Application Over Solid Backing:

2.3.3.1 Fiberboard: Minimum $\frac{1}{2}$ -inch-thick (12.7 mm) fiberboard sheathing is installed directly over wood studs spaced 24 inches (610 mm) on center, maximum. The fiberboard is temporarily held in place with 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 lath or optional insulation board. The lath is then attached to studs through the sheathing with fasteners and spacings as described for insulation board in Section 2.3.2 of this report or Table 23-II-J of the UBC, whichever is more restrictive.

The sheathing may also be applied to minimum No. 20 gage [0.0359 inch (0.91 mm) base metal thickness] steel studs spaced 24 inches on center (610 mm), maximum. The fiberboard is temporarily held in place with self-tapping screws followed by two layers of building paper. Self-furring or furred lath is secured through the weather-resistive barrier and sheathing with No. 7 S12-20 self-drilling, self-tapping screws spaced as for wood studs. Screw-head diameter is 0.435 inch (11 mm), minimum. The screws must be long enough to penetrate the studs and track at least $\frac{1}{4}$ inch (6.3 mm).

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 the coating is applied as described in Section 2.3.1 of this report.

2.3.3.2 Gypsum Sheathing: Minimum $\frac{1}{2}$ -inch-thick (12.7 mm), water-resistant core gypsum sheathing may be installed directly on wood studs in a manner similar to installation of fiberboard. Gypsum sheathing is fastened in accordance with Table 25-G of the UBC. 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, $\frac{1}{2}$ to $1\frac{1}{2}$ inches (12.7 to 38 mm) thick, may be installed over the barrier prior to the lath coating. The sheathing may also be applied to minimum 20 gage [0.0359 inch (0.91 mm) base metal thickness] steel studs spaced 24 inches (610 mm) on center, maximum. The gypsum sheathing is attached to metal

studs with screws in accordance with Table 25-G of the UBC except for the spacing, which is 6 inches (152 mm) on center. The weather-resistive barrier is temporarily fastened, followed by the self-furring or furred metal lath. The lath is attached through the sheathing to metal studs as set forth in Section 2.3.3.1, of this report. Screws fastening sheathing and screws fastening lath must be staggered from each other.

2.3.3.3 Plywood: Plywood is applied directly to wood or minimum No. 20 gage [0.0359 inch (0.91 mm) base metal thickness] steel studs under conditions set forth in Section 2.2.7 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 in Section 2.3.3.1 for fiberboard.

2.4 One-hour Fire-resistive Assembly:

2.4.1 Interior Face: One layer of $\frac{5}{8}$ -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 the wood studs spaced at 24 inches on center (610 mm), maximum. The wallboard is attached to studs, plates and blocking, at 6 inches (152 mm) on center, with No. 13 gage, $\frac{1}{8}$ -inch-long (41 mm) gypsum wallboard nails with $\frac{19}{64}$ -inch-diameter (7.54 mm) heads. All wallboard joints must be backed with minimum 2-by-4 (51 by 102 mm) wood framing, taped and treated with joint compound. Fastener heads must also be treated with joint compound.

2.4.2 Exterior Face: One layer of minimum $\frac{5}{8}$ -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, $\frac{3}{4}$ inches (44.5 mm) long with $\frac{7}{16}$ -inch-diameter (11.1 mm) or 1-inch-diameter (25 mm) heads, at 4 inches (102 mm) on center at board edges 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 wire fabric lath and wall coating are then applied as described in Section 2.3.3.1 of this report.

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 UBC.

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 is required 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-B, 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. Sills 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 the 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-II-B-1 of the UBC, and

a double layer of a complying weather-resistive barrier is applied. The coating, lath and optional EPS board are applied in accordance with Section 2.3.2 of this report.

2.6 Identification:

The factory-prepared mix is delivered to the jobsite in water-resistant bags with labels bearing the following information:

1. Name and address of the manufacturer and ICBO ES ER-5205.
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.

The bulk-mixer label shows information as noted in Section 2.2.1.

Polystyrene foam plastic insulation boards are identified in accordance with their respective ICBO ES or NES evaluation reports. Additionally, the board density must be noted on the board or bundle. Alternatively, the bundles are labeled with the name ProWall, ICBO ES ER-5205, density of EPS boards, the block molder identification number and the name of the quality control agency, RADCO (AA-650).

3.0 EVIDENCE SUBMITTED

Reports of tests in accordance with the ICBO ES Acceptance Criteria for Cementitious Exterior Wall Coatings (AC11), dated July 2000, along with descriptive information.

4.0 FINDINGS

That the Prowall One-Coat Stucco System described in this report complies with the 1997 Uniform Building Code™ (UBC), subject to the following conditions:

- 4.1 The 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 The system is confined to use where combustible construction is permitted.
- 4.4 The interior of the building is separated from the EPS board with a thermal barrier complying with Section 2602.4 of the code, such as $\frac{1}{2}$ -inch (12.7 mm) regular gypsum wallboard applied in accordance with Table 25-G of the UBC.
- 4.5 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.
- 4.6 The allowable wind load on the system with wood or minimum No. 20 gage [0.0359 inch (0.91 mm) base metal thickness] steel studs 16 inches on center (406 mm), maximum, is 32 psf (151 kg/m²) positive or negative. Supporting framing must be adequate to resist the required wind load.

This report is subject to re-examination in two years.

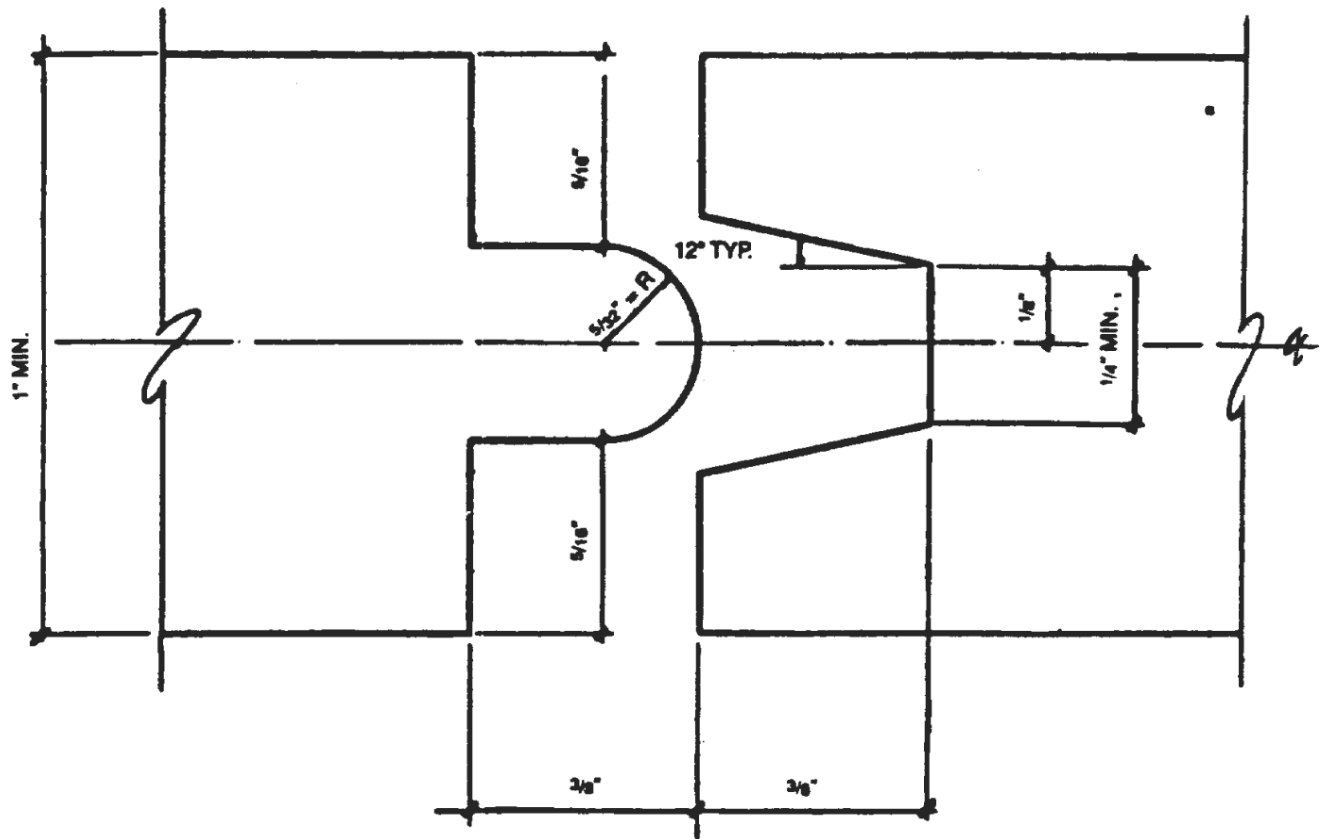


FIGURE 1—TONGUE AND GROOVE

DETAILS FOR PROWALL STUCCO

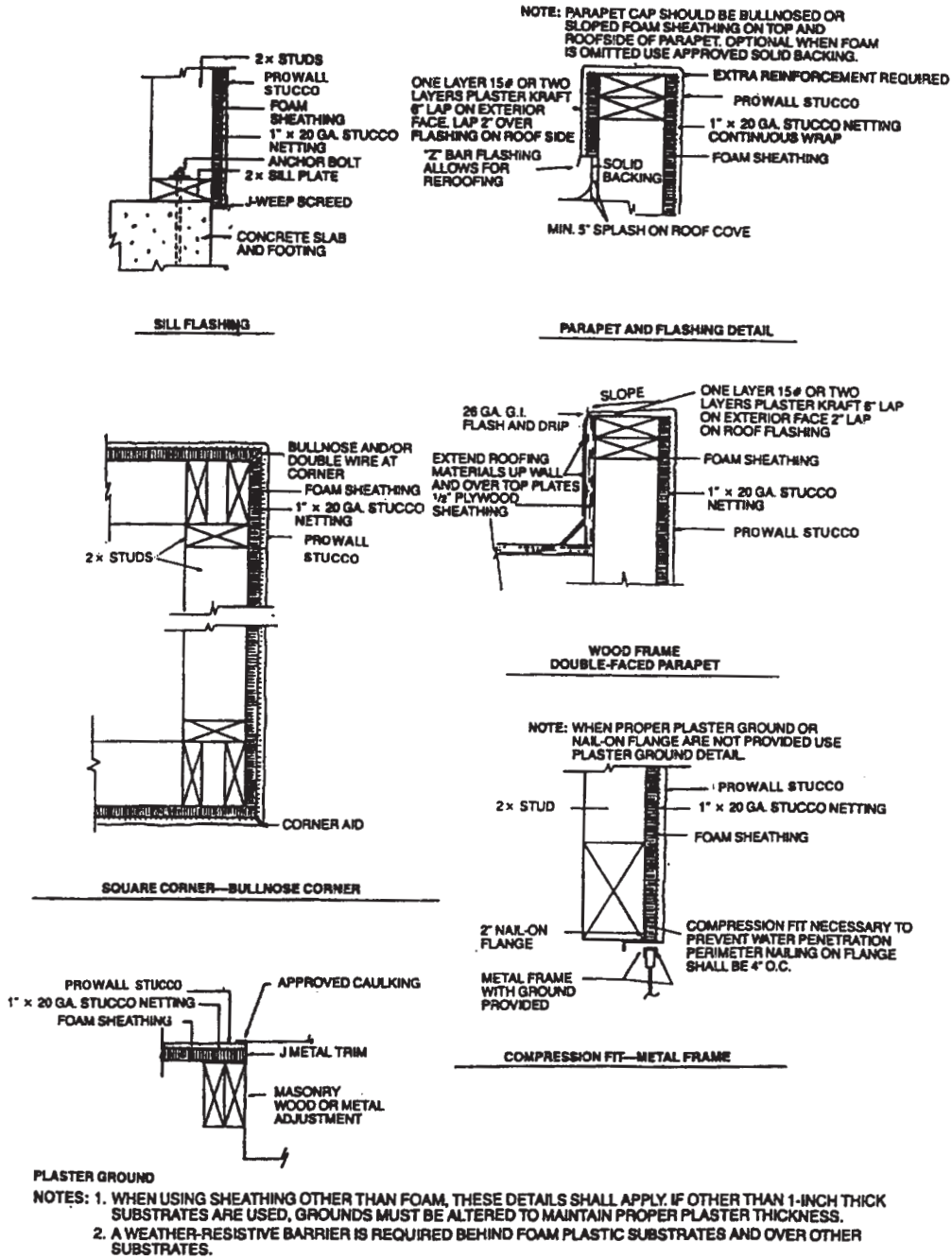


FIGURE 2

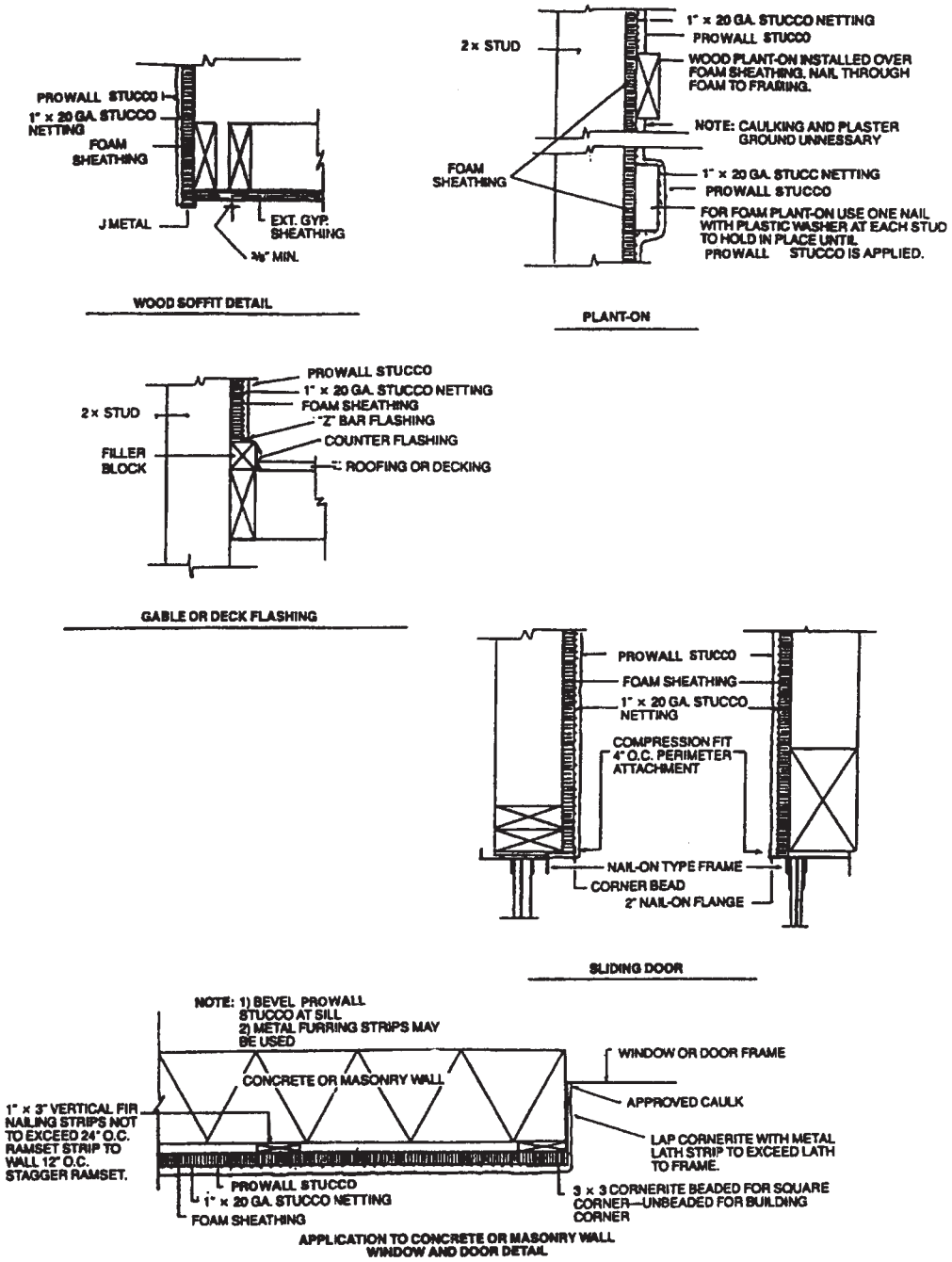


FIGURE 2—(Continued)

INSTALLATION CARD
(Coating system Trade Name)
(Name of coating manufacturer)

Job Address

ICBO Evaluation Service, Inc.
ER- _____

Date of Job Completion _____

Plastering Contractor

Name: _____

Address: _____

Telephone No. () _____

Approved contractor as
issued by the coating manufacturer _____

This is to certify that the exterior coating system on the building exterior at the above address has been installed in accordance with the evaluation report specified above and the manufacturer's instructions.

Signature of authorized representative
of plastering contractor

Date

This installation card must be presented to the building inspector after completion of work and before final inspection.

FIGURE 3