LEGACY REPORT

ER-5146*

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Legacy report on the 1997 *Uniform Building Code™*

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

EZ WALL ONE COAT STUCCO

EZ WALL PRE-MIX CO., INC.
3910 EAST McKINNEY
DENTON, TEXAS 76208

1.0 SUBJECT

EZ Wall One Coat Stucco.

2.0 DESCRIPTION

2.1 EZ Wall One Coat Stucco:

The EZ Wall One Coat Stucco 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 wood structural panels. The system is installed on exterior walls of wood or steel-stud construction.

2.1.1 Materials:

2.1.1.1 EZ Wall One Coat Stucco 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 250 pounds (113 kg) of sand, complying with Section 2.1.1.3 of this report, are added to each bag in the field and mixed in accordance with the manufacturer's recommendations.

2.1.1.2 EZ Wall One Coat Stucco (Sanded): A factory-prepared mixture of Type I or II portland cement complying with UBC Standard 19-1, sand complying with Section 2.1.1.4 of this report 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 80-pound (36 kg) bag, and the materials are mixed in accordance with manufacturer's recommendations.

2.1.1.3 Sand: 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:

RETAINED ON U.S. STANDARD SIEVE	PERCENT RETAINED BY WEIGHT ± 2 PERCENT	
	Minimum	Maximum
No. 4 (7.6 mm)	—	0
No. 8 (2.36 mm)	0	10
No. 16 (1.18 mm)	10	40
No. 30 (600 µm)	30	65
No. 50 (300 µm)	70	90
No. 100 (150 µm)	95	100

2.1.1.4 Insulation Board: EPS insulation board has a nominal density of 1.5 pounds per cubic foot (24 kg/m^3), has a Class 1 flame-spread classification and a smoke-developed rating not exceeding 450, and must comply with ASTM C 578-01. Unbacked boards are 1 to $1^1/_2$ inches (25.4 to 38 mm) thick and are provided with $^3/_8$-inch-high (9.5 mm) tongues with compatible grooves for horizontal joints. See Figure 2 for joint detail. All boards must be recognized in an evaluation report issued by ICC-ES. See Section 2.3 for board identification.

2.1.1.5 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.

2.1.1.6 Metal Lath: Metal lath must comply with AC191 and UBC Table 25-B. Furring requirements are as set forth in Section 2.1.1.5.

2.1.1.7 Gypsum Sheathing Board: Water-resistant core gypsum sheathing complying with ASTM C 79-92.

***Revised July 2006**

2.1.1.8 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.

2.1.1.9 Wood Structural Panels: Minimum $^5/_{16}$-inch-thick (7.9 mm) panels with exterior glue for studs spaced 16 inches (406 mm) on center, and minimum $^3/_8$-inch-thick (9.5 mm) panels with exterior glue for studs spaced 24 inches (610 mm) on center. The wood structural panels shall comply with either UBC Standard 23-2 or UBC Standard 23-3.

2.1.1.10 Caulking: Acrylic latex caulking material complying with ASTM C 834.

2.1.1.11 Weather-resistive 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 board is placed over all substrates except for EPS foam plastic insulation board, where the barrier may be behind the board. Application of the barrier must comply with Section 1402.1 of the code. When applied over any wood-based sheathing, the barrier must be a minimum of two layers of Grade D building paper as set forth in Section 2506.4 of the code.

2.1.1.12 Fibers: Chopped Type E glass or polypropylene fibers, $^1/_4$ to $^1/_2$ inch (6.4 to 12.7 mm) long, for short-term benefits during initial curing.

2.1.1.13 Admixture: Proprietary ingredients added to assist in mixing, applying and curing of the coating mixture.

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

2.1.2 Installation:

2.1.2.1 General: The exterior cementitious coating is applied by hand-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 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 the attached details. Weep screeds and their installation shall comply with UBC Section 2506.5. 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 EZ Wall Pre-Mix Stucco Inc. The weather-resistive barrier must be applied as set forth in Section 2.1.1.11 of this report. An installation card as illustrated 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.

2.1.2.2 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 2.1.1.5 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 must occur directly over studs.

The lath is applied tightly over the insulation board and is fastened through the board to wood studs using No. 11 gage galvanized roofing nails with $^3/_8$-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 a minimum crown width of $^1/_2$ inch (12.7 mm). Stapling is permitted only in wood with a specific gravity of 0.50 or greater in accordance with Chapter 23, Division III, of the UBC. Care must be taken to avoid over-driving fasteners. Maximum air pressure for power-driven, pneumatic fastener installation is 85 psi (561 kPa). The lath is applied with $1^1/_2$-inch (38 mm) end and side laps.

Wall bracing in accordance with Section 2326.11.3 or 2320.11.4 of the UBC, or an acceptable alternative, is required. 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 2506.5 of the code. Galvanized steel, $1^3/_8$-inch (35 mm), No. 22 gage, 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 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 2.1.2.1.

2.1.2.3 Application over Solid Backing:

2.1.2.3.1 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 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 application of the lath or optional insulation board. The lath is attached to studs through the sheathing with fasteners and spacing as described for insulation board in Section 2.1.2.2 of this report or Table 23-II-B-1 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 2.1.2.1.

2.1.2.3.2 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 for fiberboard. The 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 2.1.2.2. EPS insulation board may be installed over the sheathing prior to the lath and coating. All walls must be braced in accordance with 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 $1^3/_{16}$-inch-long (30.2 mm), self-tapping screws, spaced at 6 inches (152 mm) on center, secure the sheathing. Lath is secured with No. 8, 0.409-inch-head-diameter (10.4 mm), minimum $1^1/_4$-inch-long (32 mm), self-tapping waferhead screws spaced 6 inches (152 mm) on center. Screw penetration is a minimum of $^1/_4$ inch (6.4 mm) beyond the stud.

2.1.2.3.3 Wood Structural Panels: Wood structural panels are applied directly to wood studs under conditions as set forth in Section 2.1.1.9 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.

2.1.3 One-hour Fire-resistive Assembly:

2.1.3.1 First Assembly:

2.1.3.1.1 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 (51 by 102 mm) wood studs spaced 24 inches (610 mm) on center, maximum. The wallboard is attached with 6d coated nails, $1^7/_8$ inches (48 mm) long, with $^1/_4$-inch-diameter (6.4 mm) heads, at 7 inches (178 mm) 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.

2.1.3.1.2 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 $^7/_{16}$- or $^1/_2$-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 2.1.2.2.

2.1.3.2 Second Assembly:

2.1.3.2.1 Interior Face: One layer of $^5/_8$-inch-thick (15.9 mm), Type X gypsum wallboard is applied parallel to the interior face of 2-by-4 wood studs spaced 16 inches (406 mm) on center, maximum. The wallboard is attached with 6d coated wallboard nails, $1^5/_8$ inches (41.3 mm) long, with $^{19}/_{64}$-inch-diameter (7.5 mm) heads, at 8 inches (203 mm) on center to studs, plates and blocking. The stud cavities shall be fully insulated with minimum R-11 fiberglass or mineral wool insulation the same thickness as the studs. 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.

2.1.3.2.2 Exterior Face: One layer of minimum $^1/_2$-inch-thick (12.7 mm), water-resistant core, treated gypsum sheathing, 48 inches (1219 mm) wide, is applied perpendicular to studs with 6d coated wallboard nails, $1^5/_8$ inches (41.3 mm) long with $^{19}/_{64}$-inch-diameter (7.5 mm) heads, at 12 inches (305 mm) on center to studs, plates and blocking. As an alternative, one layer of minimum $^7/_{16}$-inch-thick (11.1 mm) oriented strand board is applied perpendicular to studs with 6d common or box nails, at 6 inches (152 mm) on center to framing at board edges and 8 inches (203 mm) on center to intermediate framing. All sheathing edges must be blocked. A weather-resistive barrier is required over the sheathing. The lath shall be metal lath described in Section 2.1.1.6. The lath and wall coating are then applied as described in Section 2.1.2.2.

2.1.4 Miscellaneous:

2.1.4.1 Inspection Requirements: Building department inspection is required on wire lath installation prior to application of the coating, as noted in Section 108.5.5 of the UBC.

2.1.4.2 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.

2.1.4.3 Curing: Moist curing must be provided for a minimum of 24 hours after coating application.

2.1.4.4 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 of the UBC, except the length must be increased by the thickness of any substrate.

2.1.4.5 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 over the substrate a double layer of a complying weather-resistive barrier is applied. The coating, lath and optional EPS board are applied in accordance with Section 2.1.2.2 of this report.

2.2 Identification:

The factory-prepared mixtures of Easy Wall One Coat Stucco are delivered to the jobsite in water-resistant bags with labels bearing the following information:

1. Name and address of the manufacturer (EZ Wall One Coat Stucco)
2. Evaluation report number (ER-5146)
3. Identification of components
4. Weight of packaged mix
5. Storage instructions
6. Maximum amount of water and other components that may be added and conditions that must be considered in determining actual amounts
7. Curing instructions

Polystyrene foam plastic insulation boards are identified in accordance with their respective evaluation reports. Additionally, the board density must be noted.

All components for the EZ Coat Exterior Insulation and Finish System bear a label containing the name of the product, the manufacturer's name (EZ Wall One Coat Stucco) and address, and the evaluation report number (ICBO ES ER-5146). Liquid components also bear the expiration date.

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 Easy Wall One Coat Stucco described in this report comply with the 1997 *Uniform Building Code*™ (UBC), subject to the following conditions:

4.1 The materials 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 systems are confined to Type V construction.

4.4 The Easy Wall One Coat Stucco is recognized as a one-hour fire-resistive assembly when complying with Section 2.1.3 of this report. The design stress for the system described in Section 2.1.3 is limited to $0.78F'_c$, and the maximum stress may not exceed $0.78F'_c$ at a maximum l_e/d ratio of 33 in accordance with the UBC.

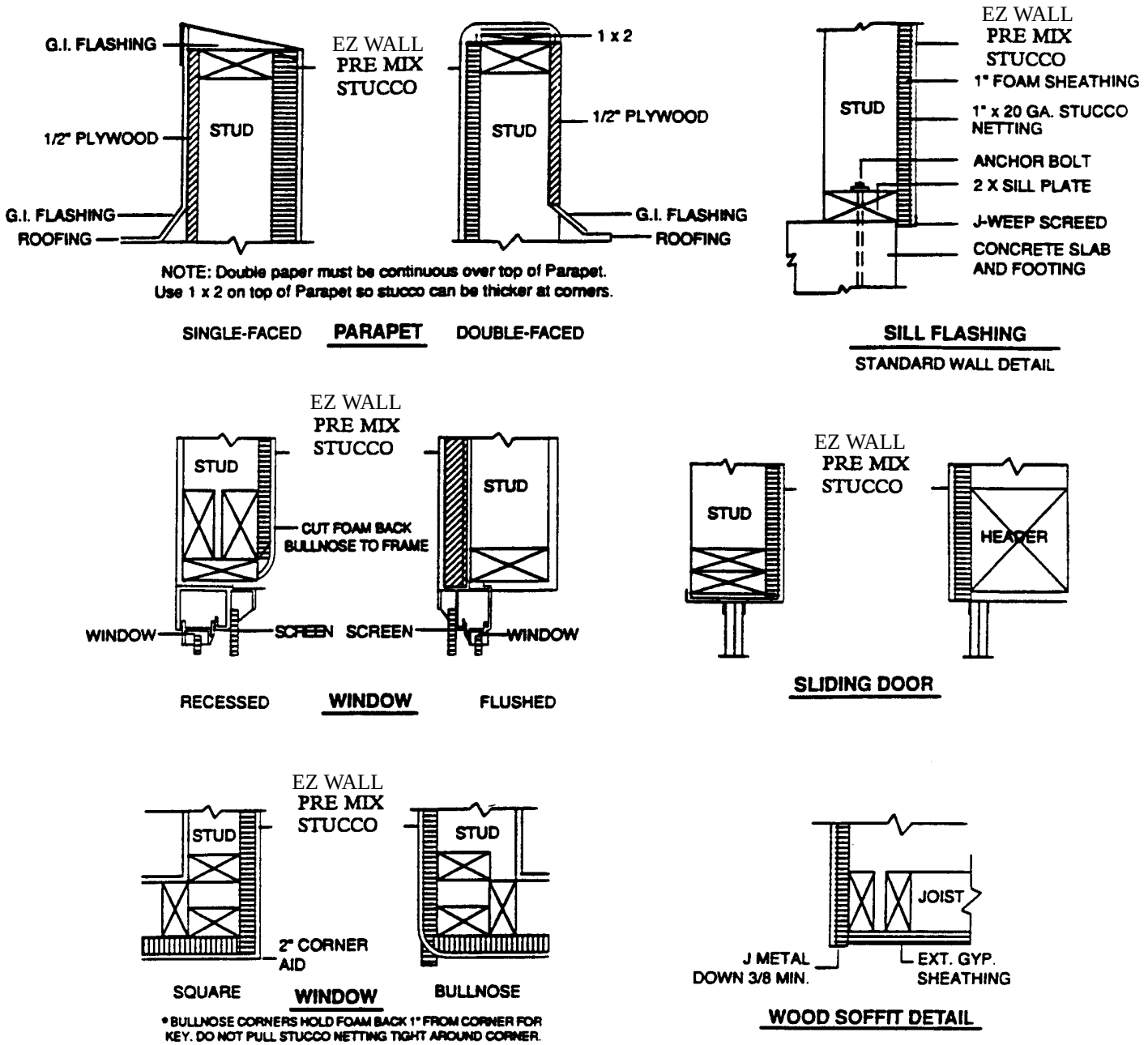
4.5 The interior of the building is separated from the foam plastic insulation board with a thermal barrier complying with Section 2602 of the code, such as $^1/_2$-inch (12.7 mm) regular gypsum wallboard applied in accordance with Table 25-G of the UBC.

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 for the EZ Wall One Coat Stucco.

4.7 Allowable wind load on the EZ Wall One Coat Stucco, with wood studs a maximum of 24 inches (610 mm) on center without backing, is 22 psf (1050 Pa) positive and 28 psf (1340 Pa) negative.

4.8 Allowable wind load on the EZ Wall One Coat Stucco over No. 20 gage steel studs, a maximum of 16 inches (406 mm) on center, is 49 psf (2350 Pa) positive or negative.

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

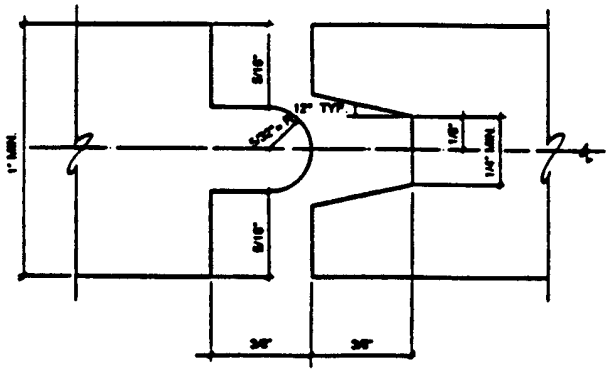


For **SI:** 1 inch = 25.4 mm.

FIGURE 1—TYPICAL DETAILS

NOTE: WEATHER RESISTIVE BARRIER IS USED UNDER FOAM WHEN REQUIRED AND IS REQUIRED OVER ALL OTHER SUB-STRATES.

DO NOT OVERSET FASTENERS INTO FOAM.



For **SI:** 1 inch = 25.4 mm.

FIGURE 2—TYPICAL DETAILS FOR EASY WALL ONE COAT STUCCO

INSTALLATION CARD

EZ WALL PRE-MIX STUCCO

Job Address
_____

_____

_____

Evaluation Report ER- _____

Date of Job Completion_____

Plastering Contractor

Name:_____

Address:_____

Telephone No. ( )_____

Approved contractor as
issued by the coating manufacturer_____

This is to certify 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