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Legacy report on the 1997 Uniform Building Code™

DIVISION: 09—FINISHES
Section: 09220—Portland Cement Plaster
RAPID SET ONE COAT STUCCO SYSTEM

CTS CEMENT MANUFACTURING CORP.
11065 KNOTT AVENUE, SUITE A
CYPRESS, CALIFORNIA 90630

1.0 SUBJECT

Rapid Set One Coat Stucco System.

2.0 DESCRIPTION

2.1 General:

The Rapid Set One Coat System is a proprietary mixture of Rapid Set Eisenwall Cement and graded sand, reinforced with metal lath. The system is installed on exterior walls of wood, steel, masonry or concrete construction.

2.2 Materials:

2.2.1 Rapid Set One Coat Stucco: The Rapid Set One Coat Stucco is a factory-prepackaged mixture of Rapid Set Eisenwall Cement and graded sand. The mixture is packaged in 55-pound (25 kg) bags, to which approximately 3 1/2 quarts (3.3 L) of water are added in the field and mixed in accordance with the manufacturer's recommendations. As an alternate, the Rapid Set One Coat Stucco may be applied in the following manner: Each 88-pound (40 kg) bag of Rapid Set Eisenwall Cement is mixed in the field with approximately 3 gallons (11.3 L) of water and 3 to 4 cubic feet (0.085 to 0.115 m³) of graded sand in accordance with the manufacturer's instructions.

2.2.2 Rapid Set Eisenwall Cement: The Rapid Set Eisenwall Cement is a plastic cement complying with UBC (1997 Uniform Building Code™) Standard 25-1 and packaged in 88-pound (40 kg) bags.

2.2.3 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 ± 2 PERCENT, and sub-columns for Min. and Max. values for sieve sizes No. 4, 8, 16, 30, 50, and 100.

2.2.4 Lath: Wire fabric lath and metal lath must comply with the ICC-ES Acceptance Criteria for Metal Plaster Bases (Lath) (AC191). Lath must be self-furred or furred when applied over all supports and substrates except as noted in Footnote 2 to the table.

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

2.2.6 Fiberboard: Minimum 1/2-inch-thick (13 mm) asphalt-impregnated fiberboard complying with ANSI/AHA194.1 as a regular density sheathing.

2.2.7 Wood Structural Panels: Minimum 5/16-inch-thick (7.9 mm) panels with exterior glue for studs spaced 16 inches on center (406 mm) and minimum 3/8-inch-thick (610 mm) panels with exterior glue for studs spaced 24 inches (9.5 mm) panels on center. Panels must comply with UBC Standard 23-2 or 23-3.

2.2.8 Caulking: Acrylic latex caulking material 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 Underwriters Laboratories 55-A is required. The weather-resistive barrier is placed over all substrates. Application of the barrier must comply with Section 1402.1 of the UBC. When applied over any wood-based sheathing or furring, the barrier must be a minimum two layers of Grade D paper as set forth in Section 2506.4 of the UBC.

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

2.3 Installation:

2.3.1 General: The exterior cementitious coating is applied by hand troweling in one coat to a 3/4 inch to 1 inch (19 mm to 25 mm) thickness. Alternatively, the coating may be applied in two coats with the second coat applied as soon as the first coat has attained sufficient rigidity to receive the second coat, in accordance with Section 2508.6 of the UBC. The weather-resistive barrier is applied as set forth in Section 2.2.9. Fasteners for lath must penetrate 1 inch minimum into wood studs. Flashing, corner reinforcement, metal trim and weep screeds must be installed as shown in Figure 1. An installation card, as noted in Figure 2, 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 4.5 of this report. The coating is applied at ambient temperature ranging from 32°F to 110°F (0°C to 43°C) by applicators approved by CTS Cement Manufacturing Company. The lath must be embedded in the

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minimum coating thickness and be unexposed. The finish coat may be applied after the base coat has cured one hour.

**2.3.2 Application Over Open Framing:** The weather-resistive barrier is placed over open steel or wood studs or furring spaced a maximum of 24 inches (610 mm) on center.

The lath is applied based on Section 2506 of the UBC, fastened through the board to framing or furring strips as set forth in UBC Table 25-C. Care must be taken to avoid overdriving fasteners.

Wall bracing in accordance with Section 2320.11.3 or 2320.11.4 of the UBC or acceptable alternate is required. Outside wall corners and parapet corners are covered with extra metal reinforcement. Weep screeds are installed at the bottom of the wall in accordance with Section 2506.5 of the UBC. Galvanized No. 22 gage (0.0299 inch) (0.76 mm) steel  $1\frac{3}{8}$ -inch (35 mm) trim pieces are installed at other areas where sheathing is exposed. When butting J-trim is used at windows and doors, metal edges must be caulked. Holes for hose bibbs, electrical panels and other penetrations of substrate surfaces 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  $\frac{1}{2}$ -inch-thick (13 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 the lath or optional insulation board. The lath is attached to studs through the sheathing with fasteners and spacing described in Section 2.3.2 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 UBC. Exposed sheathing edges are protected with screeds. Holes in the substrate surface are caulked and coating applied as described in Section 2.3.1.

**2.3.3.2 Gypsum Sheathing:** Minimum  $\frac{1}{2}$ -inch-thick (12.7 mm) water-resistant core gypsum sheathing is installed directly on wood or steel studs in a manner similar to 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 as described in Section 2.3.2.

**2.3.3.3 Plywood:** Plywood is applied directly to wood studs under conditions as set forth in Section 2.2.5 of this report and Table 23-N-1 of the UBC. The weather-resistive barrier, wire-fabric lath and coating are applied as described for fiberboard.

**2.3.3.4 Concrete or Masonry:** The concrete or masonry surface is prepared according to Section 2508.8 of the UBC. The application of Rapid Set is according to Table 25-D of the UBC and Section 2.3.1 of this report.

### 2.4 Fire-resistive Assemblies:

Rapid Set may be used in fire-resistive assemblies described in Table 7-B of the UBC, replacing the cement plaster identified in Items 18-1.2, 18-1.3, 18-1.4, 18-1.7, and 18-1.8.

### 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 108.5.5 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 must be provided for one hour after application by misting or light spraying before the finish coat.

**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 UBC 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 depths 6 inches (152 mm) or less may have the coating and lath applied to any substrate permitted in this report, provided installation complies with the appropriate section. Sill depths exceeding 6 inches must have substrates of solid wood or plywood. The substrate is fastened in accordance with Table 23-II-B-1 of the UBC, over which a double layer of a complying weather-resistive barrier is applied. The coating and lath are applied in accordance with Section 2.3.2 of this report.

### 2.6 Identification:

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 and evaluation report number (ER-5102).
2. Identification of components.
3. Weight of packaged mix.
4. Storage instructions.
5. Maximum amount of water that may be added and conditions that must be considered in determining actual amount.
6. Curing instructions.

### 3.0 EVIDENCE SUBMITTED

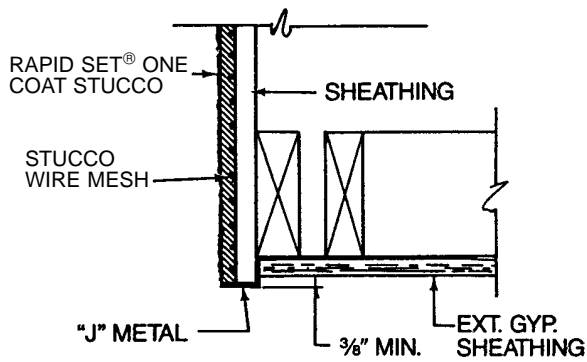
Data in accordance with the Acceptance Criteria for Cementitious Exterior Wall Coatings (AC11), dated September 2002; reports of tests in accordance with UBC Standard 25-1; and a quality control manual.

### 4.0 FINDINGS

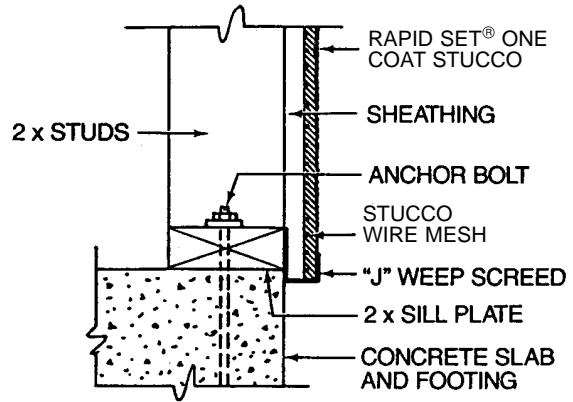
**That the Rapid Set One Coat Stucco System described in this report complies with the 1997 Uniform Building Code™, subject to the following conditions:**

- 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 Type V construction when applied over wood framing.
- 4.4 When the system is applied to noncombustible concrete or masonry surfaces, the walls retain the noncombustible rating.
- 4.5 The system is recognized as a one-hour fire-resistive assembly when complying with Section 2.4 of this report. The design stress for the systems described in Section 2.4 is limited to  $0.78 F'_c$  and the maximum stress may not exceed  $0.78 F'_c$  at a maximum  $l_e/d$  ratio of 33.
- 4.6 An installation card, such as shown in Figure 2, is left at the jobsite for the owner and a copy filed with the building department.

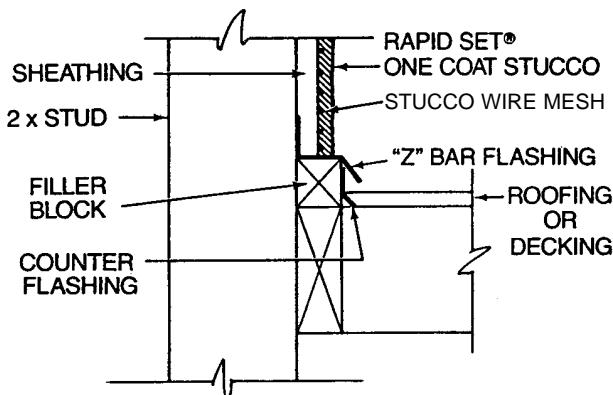
**This report is subject to re-examination in two years.**



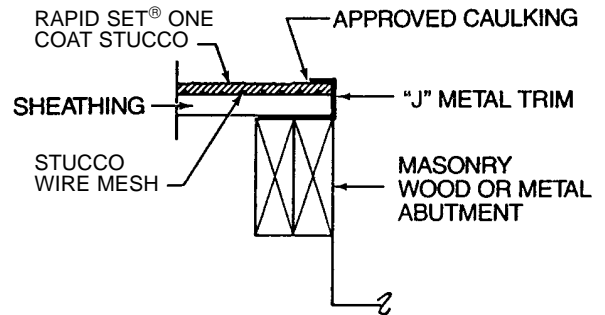
**WOOD SOFFIT DETAIL**



**SILL FLASHING**

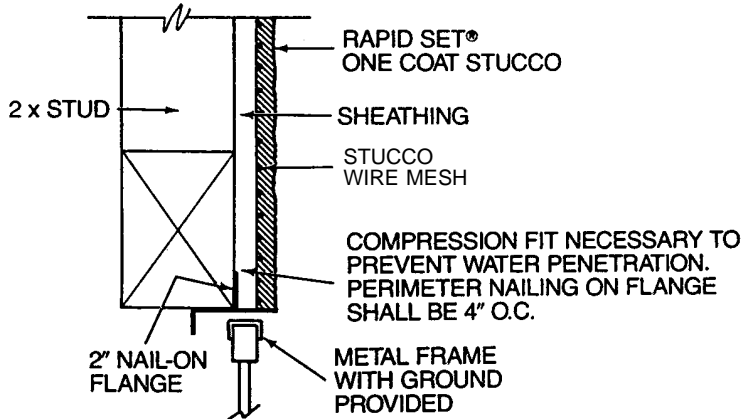


**GABLE OR DECK FLASHING**

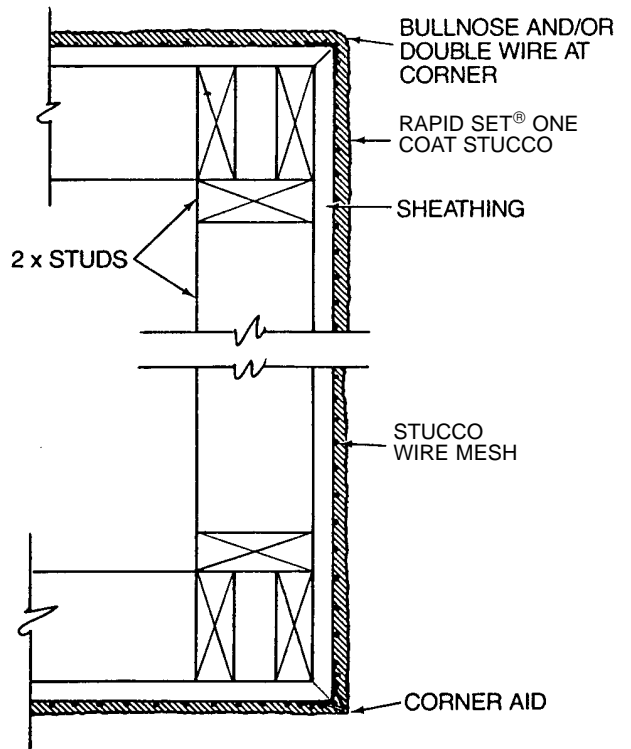


**PLASTER GROUND**

NOTE: WHEN PROPER PLASTER GROUND OR NAIL-ON FLANGE ARE NOT PROVIDED USE PLASTER GROUND DETAIL.



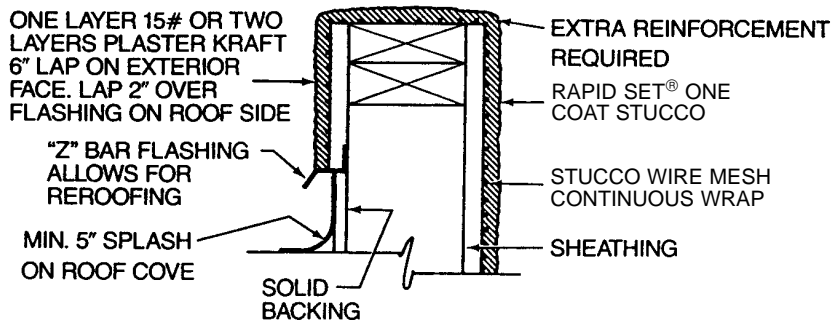
**COMPRESSION FIT-METAL FRAME**



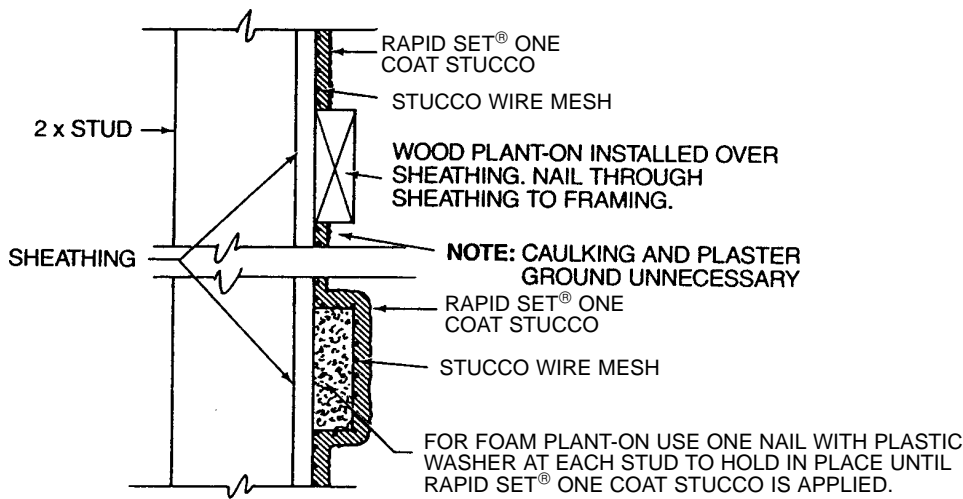
**SQUARE CORNER-BULLNOSE CORNER**

FIGURE 1

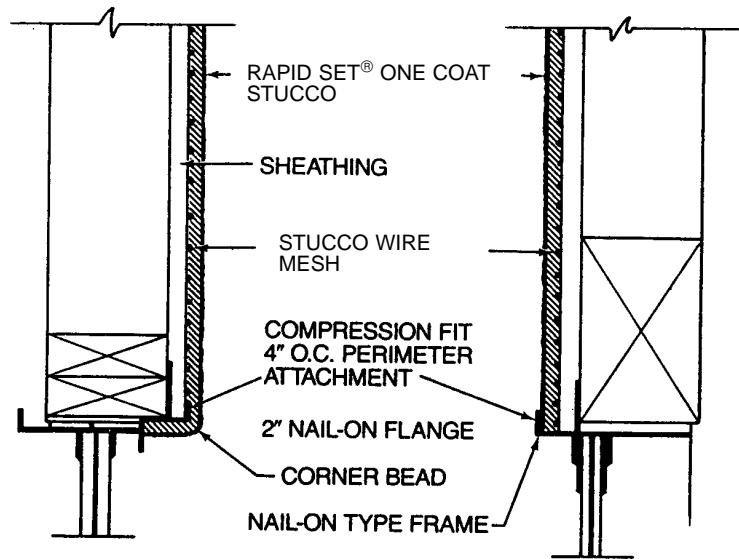
**NOTE: PARAPET CAP SHOULD BE BULLNOSED OR SLOPED. FOAM SHEATHING ON TOP AND ROOFSIDE OF PARAPET OPTIONAL. WHEN FOAM IS OMITTED USE APPROVED SOLID BACKING.**



**PARAPET AND FLASHING DETAIL**



**PLANT-ON**



**SLIDING DOOR**

For SI: 1 inch = 25.4 mm.

FIGURE 1—(Continued)

**INSTALLATION CARD**  
**RAPID SET ONE COAT STUCCO SYSTEM**  
**CTS CEMENT MANUFACTURING COMPANY**

**Job Address**

ICBO Evaluation Service, Inc.  
ER-5102

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Job Completion \_\_\_\_\_

**Plastering Contractor**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No. (        ) \_\_\_\_\_

Approved contractor number 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 2