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

**REPORT HOLDER:**

**KWIK KOTE CORPORATION**  
50 NORTH 41<sup>ST</sup> AVENUE  
PHOENIX, ARIZONA 85009

**EVALUATION SUBJECT:**

**KWIK KOTE ONE-COAT STUCCO SYSTEMS**

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Structural
- Durability
- Fire-resistance-rated construction

## 2.0 USES

The Kwik Kote one-coat stucco systems are cementitious exterior wall covering systems installed on exterior walls of wood or steel frame, concrete or concrete masonry construction. The systems are alternatives to exterior wall coverings specified in IBC Chapter 25, IRC Section R703 and UBC Chapter 25. The systems may be used to construct one-hour fire-resistance-rated wall assemblies when installed in accordance with Section 4.4 of this report.

## 3.0 DESCRIPTION

### 3.1 General:

The Kwik Kote one-coat stucco systems are exterior cementitious coatings consisting of proprietary mixtures of portland cement, sand, fibers and proprietary ingredients that are reinforced with wire fabric or metal lath and applied over substrates of expanded polystyrene (EPS) or extruded polystyrene (XEPS) insulation board, fiberboard, plywood, oriented strand board (OSB), gypsum sheathing, masonry or concrete. The systems may be installed on exterior walls of wood-framed, steel-framed, masonry or concrete construction.

## 3.2 Materials:

**3.2.1 Kwik Kote One-Coat Stucco:** The Kwik Kote one-coat stucco is available in four different blends: "Kwik Kote One Coat Stucco Premix," "Kwik Kote Dry," "Kwik Kote Enhanced I" and "Kwik Kote Enhanced III." Each blend is a factory-prepared mixture of Type I or II portland cement complying with ASTM C 150; fibers; and proprietary additives. Each blend is packaged in 80-pound (36 kg) bags. Four and one-half to six gallons (17.0 to 22.7 L) of water and 200 to 250 pounds (91 to 113 kg) of sand, complying with Section 3.2.2 of this report, shall be added to each bag in the field, and shall be mixed in accordance with the manufacturer's recommendations. Optional inorganic coloring agents may be added in the field in accordance with the manufacturer's published installation instructions.

**3.2.2 Sand:** The sand shall be clean and free from deleterious amounts of loam, clay, silt, soluble salts and organic matter. Sampling and testing shall comply with ASTM C 144. Sand shall be graded in accordance with ASTM C 144 within the limits shown in the following table:

RETAINED ON U.S. STANDARD SIEVE	PERCENT RETAINED BY WEIGHT ± 2 PERCENT	
	Minimum	Maximum
No. 4 (7.6 mm)	—	0
No. 8 (2.4 mm)	0	10
No. 16 (1.2 mm)	10	40
No. 30 (600 µm)	30	65
No. 50 (300 µm)	70	90
No. 100 (150 µm)	95	100

**3.2.3 Insulation Board:** EPS and XEPS insulation board shall have densities of 1.5 and 2.5 pounds per cubic foot (24 and 40 kg/m<sup>3</sup>), respectively, a flame-spread index of 25 or less and a smoke-developed index of not more than 450 when tested in accordance with ASTM E 84 (UBC Standard 8-1), and shall comply with ASTM C 578-01 as Types II (EPS) or VII (XEPS). All boards shall be recognized in a current ICC-ES evaluation report. See Section 7.2 of this report for board identification.

Boards installed without sheathing, over open framing, shall have a thickness ranging from 1 to 1½ inches (25 to 38 mm) and have ⅜-inch-high (9.5 mm) tongues with compatible grooves for horizontal joints. See Figure 1 of this report for joint detail.

When installed over wood-based sheathing as part of a water-resistive barrier, as described in Section 3.2.9 of this report, the boards shall have tongue-and-grooves on the horizontal edges as detailed in Figure 1 of this report. When

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installed over gypsum sheathing, as described in Section 4.3.3 of this report, the boards shall have a minimum thickness of  $\frac{1}{2}$ -inch (12.7 mm).

### 3.2.4 Lath:

**3.2.4.1 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  $\frac{1}{2}$  inch (12.7 mm) or less, the body of the lath must be furred a minimum of  $\frac{1}{8}$  inch (3.2 mm) from the substrate after installation.
2. When total coating thickness is greater than  $\frac{1}{2}$  inch (12.7 mm), No. 17 gage [0.058 inch (1.47 mm)] by  $1\frac{1}{2}$ -inch (38 mm) woven-wire fabric lath must be used. The body of the lath must be furred a minimum of  $\frac{1}{4}$  inch (6.4 mm) from the substrate after installation.

**3.2.4.2 Metal Lath:** Metal lath must comply with AC191 and, when applicable, UBC Table 25-B. Furring requirements are as set forth in Section 3.2.4.1.

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

**3.2.6 Wood Structural Panel Sheathing:** Wood structural panel sheathing shall be minimum  $\frac{5}{16}$ -inch-thick (7.9 mm), exterior-grade plywood or Exposure 1 OSB for studs spaced 16 inches (406 mm) on center, and minimum  $\frac{3}{8}$ -inch-thick (9.5 mm), exterior-grade plywood or  $\frac{7}{16}$ -inch-thick (11.1 mm), Exposure 1 OSB for studs spaced 24 inches (610 mm) on center. Plywood shall comply with U.S. Department of Commerce Product Standard PS-1 (UBC Standard 23-2). Oriented strand board (OSB) shall comply with U.S. Department of Commerce Product Standard PS-2 (UBC Standard 23-3).

**3.2.7 Gypsum Board:** Water-resistant core-treated gypsum sheathing shall comply with ASTM C 79. Gypsum wallboard shall comply with ASTM C 36.

**3.2.8 Caulking:** Acrylic latex caulking material shall comply with ASTM C 834.

### 3.2.9 Weather Protection:

**3.2.9.1 Water-resistive Barrier:** When installation is over solid substrates, the water-resistive barrier shall be installed over all substrates (including optional insulation board described in Section 4.3 of this report), except in jurisdictions adopting the UBC, where the barrier is permitted to be installed behind the optional insulation board. When installation is over open framing, the water-resistive barrier shall be installed behind the insulation board. Application of the barrier shall comply with IBC Section 1404.2, IRC Section 703.2 or UBC Section 1402.1, as applicable.

For jurisdictions adopting the IBC or IRC, except when installation is over wood-based sheathing, the water-resistive barrier shall be either a minimum of one layer of No. 15 asphalt felt, complying with ASTM D 226-97a, Type I, or a water-resistive barrier recognized as equivalent to ASTM D 226-97a, Type I or better, in a current ICC-ES evaluation report.

For jurisdictions adopting the UBC, except when installation is over wood-based sheathing, weather-resistive barriers shall be minimum Grade D kraft building paper complying with UBC Standard 14-1, or shall be a weather-resistive barrier

recognized as equivalent to Grade D or better in a current ICC-ES evaluation report.

For jurisdictions adopting the IBC, IRC and UBC, when applied over any wood-based sheathing, the barrier shall be one of the following:

- A minimum of two layers of Grade D kraft building paper complying with UBC Standard 14-1 as set forth in IBC Section 2510.6 or UBC Section 2506.4; or equivalent recognized in a current ICC-ES evaluation report.
- One layer of insulation board, having horizontal tongue-and-groove edges, as described in Section 3.2.3 of this report, over one layer of Grade D kraft building paper having a minimum water-resistance rating of 60 minutes; or equivalent recognized in a current ICC-ES evaluation report.

**3.2.9.2 Vapor Retarder:** A vapor retarder complying with IBC Section 1403.3 or IRC Section R318.1 shall be provided, unless its omission is permitted under the exceptions in IRC Section 1403.3 or IRC Section R318.1.

**3.2.10 Flashing:** Flashing complying with IBC Section 1405.3, IRC Section R703.8 or UBC Section 1404.2, as applicable, shall be provided. Where membrane flashing is used, it shall be a self-adhering, flexible rubberized asphalt and polyethylene material, 0.030 inch thick (0.8 mm), shingle-lapped with the water-resistive barrier. Rigid flashings shall be sloped towards the exterior, with an upturned leg on the interior side and at the ends. Flashing shall extend beyond the surface of the exterior wall.

**3.2.11 Trim and Accessories:** All trim, screeds and corner reinforcement shall be galvanized steel or approved plastic.

## 4.0 INSTALLATION

### 4.1 General:

The coating shall be applied by troweling or machine-spraying in one coat to a minimum  $\frac{3}{8}$ -inch (9.5 mm) thickness except around openings and penetrations, which shall be backed by solid framing. The lath shall be embedded in the minimum coating thickness and shall not be exposed. The finish coat, if required, shall be applied according to manufacturer's recommendations. The coating system shall be applied at ambient temperatures ranging from 40°F to 110°F (4.4 to 43.3°C) by applicators approved by Kwik Kote Corporation. An installation card as illustrated in Figure 3 of this report shall be on the jobsite with the name of the applicator and the product to be used, before any water-resistive barrier or exterior sheathing is installed. Also, see Section 5.7 of this report.

### 4.2 Application over Open Framing:

The water-resistive barrier shall be applied, as set forth in Section 3.2.9.1 of this report, over open framing spaced a maximum of 24 inches (610 mm) on center. The insulation board described in Section 3.2.3 of this report shall be placed horizontally with tongues faced upward, and shall be temporarily held in place with galvanized staples or roofing nails. Vertical butt joints shall be staggered a minimum of one stud space from adjacent courses and be located directly over studs. The lath shall be applied tightly, with  $1\frac{1}{2}$ -inch (38 mm) end and side laps, over the insulation board and fastened through the insulation board and water-resistive barrier, to wood studs, sills and plates, having a minimum specific gravity of 0.50, at 6 inches (152 mm) on center using No. 11 gage galvanized roofing nails having  $\frac{7}{16}$ -inch-diameter (11.1 mm) heads, or No. 16 gage galvanized staples having a minimum crown width of  $\frac{7}{16}$  inch (11.1 mm). Staples with up to a 1-inch (25.4 mm) crown width may be used provided both legs of the staple engage framing. Minimum fastener

penetration shall be 1 inch (25.4 mm) into wood framing. Care shall be taken to avoid overdriving fasteners.

Wall bracing in accordance with IBC Section 2308.9.3, IRC Section R602.10 or UBC Sections 2320.11.3 and 2320.11.4, as applicable, or an acceptable alternative, shall be required. Outside wall corners and parapet corners shall be covered with extra metal corner reinforcements attached to the framing members with approved fasteners spaced a maximum of 18 inches (457 mm) on center, or as necessary to hold plumb. Weep screeds shall comply with, and be installed at the bottom of the wall in accordance with, IBC Section 2512.1.2, IRC Section R703.6.2.1 or UBC Section 2506.5, as applicable. Galvanized steel,  $1\frac{3}{8}$ -inch-thick (35 mm), No. 22 gage [0.025-inch-thick (0.635 mm)], J-shaped trim pieces shall be installed at other areas where insulation board is exposed. See Figure 2 of this report for typical installation details. At windows and doors, butting J-trim metal edges, when installed, shall be caulked. Holes for hose bibbs, electrical panels and other penetrations of substrate surfaces, except those caused by fasteners, shall also be caulked. The coating shall then be applied as described in Section 4.1 of this report.

Installation of the Kwik Kote stucco system applied over open, minimum No. 20 gage [0.035-inch-thick (0.813 mm)] galvanized steel framing spaced a maximum of 24 inches (610 mm) on center shall be the same as for wood studs described in this section (Section 4.2), except the lath shall be fastened with No. 8 gage, corrosion-resistant, self-drilling, waferhead, tapping screws, installed at a maximum of 7 inches (178 mm) on center to framing and tracks. Screws shall penetrate framing and tracks at least  $\frac{1}{4}$  inch (6.4 mm).

### 4.3 Application over Solid Substrates:

**4.3.1 Fiberboard:** Minimum  $\frac{1}{2}$ -inch-thick (12.7 mm) fiberboard sheathing shall be installed directly over wood studs or minimum No. 20 gage (0.035-inch-thick [0.889 mm]) steel studs spaced a maximum of 24 inches (610 mm) on center. The fiberboard shall be temporarily held in place with corrosion-resistant staples or roofing nails for wood studs, or self-drilling tapping screws for steel studs. A water-resistive barrier shall be applied over the fiberboard or optional insulation board, as set forth in Section 3.2.9.1 of this report. The lath shall be attached to studs through the sheathing with fasteners and spacing described for insulation board in Section 4.2 of this report; or as described for fiberboard in IBC Table 2304.9.1, IRC Table R602.3(1) or UBC Table 23-II-B-1, as applicable; whichever is more restrictive.

Wall bracing in accordance with IBC Section 2308.9.3, IRC Section R602.10 or UBC Sections 2320.11.3 and 2320.11.4, as applicable, or an acceptable alternate, shall be required. Outside wall corners and parapet corners shall be covered with extra metal corner reinforcements attached to the framing members with approved fasteners spaced 18 inches (457 mm) on center, or as necessary to hold plumb. Weep screeds shall comply with, and be installed at the bottom of the wall in accordance with, IBC Section 2512.1.2, IRC Section R703.6.2.1 or UBC Section 2506.5, as applicable. Galvanized steel,  $1\frac{3}{8}$ -inch-thick (35 mm), No. 22 gage [0.025-inch-thick (0.635 mm)], J-shaped trim pieces shall be installed at other areas where insulation board is exposed. See Figure 2 of this report for typical installation details. At windows and doors, butting J-trim metal edges, when installed, shall be caulked. Holes for hose bibbs, electrical panels and other penetrations of substrate surfaces, except those caused by fasteners, shall also be caulked. The coating shall then be applied as described in Section 4.1 of this report.

**4.3.2 Wood Structural Panel Sheathing:** Wood structural panel sheathing shall be applied directly to wood studs under conditions as set forth in Section 3.2.6 of this report and IBC

Table 2308.9.3(3), IRC Table R602.3(3) or UBC Table 23-IV-D-1, as applicable. The sheathing shall be attached in accordance with IBC Table 2304.9.1, IRC Table R602.3(1) or UBC Table 23-II-B-1, as applicable. The water-resistive barrier, optional insulation board, wire-fabric lath and coating shall be applied as described for fiberboard in Section 4.3.1 of this report. The balance of the system shall be installed in accordance with Section 4.2 of this report.

**4.3.3 Gypsum Sheathing:** Minimum  $\frac{1}{2}$ -inch-thick (12.7 mm), water-resistant core-treated gypsum sheathing shall be installed directly on wood studs spaced a maximum of 24 inches (610 mm) on center, in a manner similar to fiberboard, as described in Section 4.3.1 of this report. Gypsum sheathing shall be fastened in accordance with IBC Table 2508.1, IRC Table R702.3.5 or UBC Table 25-G, as applicable.

A water-resistive barrier shall be applied over the gypsum sheathing or optional insulation board, as set forth in Section 3.2.9.1 of this report. All walls shall be braced in accordance with the applicable code.

The system may also be applied to minimum No. 20 gage [0.035-inch-thick (0.813 mm)] steel studs in the same manner, except the lath fastening is with No. 8 gage by minimum  $1\frac{3}{4}$ -inch-long (44 mm), self-drilling tapping screws spaced at a maximum of 7 inches (178 mm) on center. Screws fastening sheathing, and screws fastening lath, shall be staggered from each other. The screws shall penetrate the framing and tracks a minimum of  $\frac{1}{4}$  inch (6.4 mm). The balance of system installation shall be in accordance with Section 4.2 of this report.

**4.3.4 Concrete and Masonry:** Concrete and masonry surface preparation shall be in accordance with IBC Section 2510.7 or UBC Section 2508.8, as applicable. Surfaces of masonry, stone, or cast-in-place or precast concrete shall be clean and free of dust, oil, or other contaminants. Surfaces shall have good surface absorption and surface roughness to ensure proper bonding. If the surface is insufficiently rough, a bonding agent shall be applied. The coating shall be applied directly to the prepared surface at a minimum thickness of  $\frac{3}{8}$  inch (9.5 mm) in accordance with applicable provisions of Section 4.1 of this report.

### 4.4 One-hour Fire-resistance-rated Wall Assemblies:

#### 4.4.1 First Assembly (Limited Load Bearing):

**4.4.1.1 Interior Face:** One layer of  $\frac{5}{8}$ -inch-thick (15.9 mm), Type X gypsum wallboard, water-resistant backerboard or veneer base shall be applied parallel or at right angles to the interior face of 2-by-4 wood studs spaced a maximum of 24 inches (610 mm) on center. The wallboard shall be attached with 6d coated nails,  $1\frac{7}{8}$  inches long (47.6 mm), with  $\frac{1}{4}$ -inch-diameter (6.4 mm) heads, at 7 inches (178 mm) on center to studs, plates and blocking. All wallboard joints shall be taped and treated with joint compound, and backed with minimum 2-by-4 wood framing. Fastener heads shall be treated with joint compound.

**4.4.1.2 Exterior Face:** One layer of minimum 48-inch-wide (1219 mm),  $\frac{5}{8}$ -inch-thick (15.9 mm), Type X, water-resistant core gypsum sheathing shall be applied parallel to studs with No. 11 gage galvanized roofing nails,  $1\frac{3}{4}$  inches long (44.5 mm), with  $\frac{7}{16}$ - or  $\frac{1}{2}$ -inch-diameter (11.1 or 12.7 mm) heads at 4 inches (102 mm) on center at board edges and 7 inches (178 mm) on center at intermediate studs. The sheathing shall be nailed to top and bottom plates at 7 inches (178 mm) on center. A water-resistive barrier shall be required over the sheathing. The lath and coating are then applied, without insulation board, as described in Section 4.2 of this report.

**4.4.1.3 Axial Load Design:** The wood stud axial design stress for the wall assembly calculated in accordance with

Sections 3.6 and 3.7 of ANSI AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC) is limited to  $0.78 F'_c$ , and the maximum stress shall not exceed  $0.78 F'_c$  at a maximum  $l/d$  ratio of 33.

#### 4.4.2 Second Assembly (Limited Load Bearing):

**4.4.2.1 Interior Face:** One layer of minimum  $5/8$ -inch-thick (15.9 mm), Type X gypsum wallboard shall be applied vertically to minimum 2-by-4 wood studs (minimum specific gravity of 0.50, such as Douglas fir) spaced a maximum of 24 inches (610 mm) on center. Minimum 2-by-4 blocking spaced a maximum of 60 inches (1524 mm) on center shall be required between framing. Wallboard shall be attached with 1  $5/8$ -inch-long (41 mm), 5d gypsum wallboard nails spaced 8 inches (203 mm) on center to studs, plates and blocking. All wallboard joints shall be backed with minimum 2-by-4 wood framing or blocking and shall be taped and treated with joint compound. Fastener heads shall also be treated with joint compound. The stud cavities shall be filled with R-11 fiberglass insulation batts having a minimum density of 0.5 pcf (8 kg/m<sup>3</sup>), R-11 Rockwool batt insulation having a minimum density of 1.45 pcf (23.2 kg/m<sup>3</sup>), or cellulose insulation complying with CPSC 16 CFR, Parts 1209 and 1404, and having a minimum density of 2.6 pcf (41.65 kg/m<sup>3</sup>).

**4.4.2.2 Exterior Face:** One layer of minimum  $1/2$ -inch-thick (12.7 mm), Type X, V-edge gypsum sheathing shall be applied horizontally or vertically to wood framing. The sheathing shall be temporarily fastened in place with  $15/8$ -inch-long (41 mm), 5d wallboard nails spaced 12 inches (305 mm) on center to studs, plates and blocking. A water-resistive barrier shall be applied over the gypsum sheathing, as described in Section 3.2.9.1 of this report. Minimum 2.5-pound-per-square-yard (1.36 kg/m<sup>2</sup>) metal lath described in Section 3.2.4.2 of this report shall be then attached to all framing members with roofing nails or staples specified in Section 4.2 of this report, spaced 6 inches (152 mm) on center. The coating shall then be applied to a  $3/8$ -inch thickness (9.5 mm) as set forth in Section 4.1 of this report.

**4.4.2.3 Axial Load Design:** Axial loads applied to the wall assembly shall be limited by the lesser of the following:

- 1,500 pounds (6,672 N) per stud.
- A maximum of 57.6 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  at a maximum  $l/d$  of 33 calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).

#### 4.4.3 Third Assembly (Limited Load Bearing):

**4.4.3.1 Interior Face:** One layer of minimum  $5/8$ -inch-thick (15.9 mm), Type X gypsum wallboard shall be attached horizontally to minimum 2-by-4 wood studs (minimum specific gravity of 0.50, such as Douglas fir-larch) with  $15/8$ -inch-long (41.3 mm) galvanized steel cup-head gypsum wallboard nails [having 0.30-inch-diameter (7.62 mm) heads and 0.10-inch diameter (0.254 mm) shanks], spaced at 8 inches (203 mm) on center along all studs and runners. All wallboard joints shall be blocked. The joints shall be taped, and along with nail heads, treated with joint compound. The stud cavities shall be filled with R-11 fiberglass insulation batts having a minimum density of 0.5 pcf (8.01 kg/m<sup>3</sup>), or cellulose insulation complying with CPSC 16 CFR Parts 1209 and 1406, and having a minimum density of 2.6 pcf (41.65 kg/m<sup>3</sup>).

**4.4.3.2 Exterior Face:** One layer of minimum  $7/16$ -inch-thick (11.1 mm) OSB sheathing shall be attached to wood framing with 8d coated sinker nails,  $23/8$  inches long (60 mm), spaced at 8 inches (203 mm) to all studs and plates. Two layers of Grade D building paper shall be applied over the OSB. One layer of wire fabric lath, described in Section 3.2.4.1 of this report, shall be applied over the OSB and fastened with galvanized No. 16 gage,  $11/4$ -inch-crown (32 mm) staples having  $11/4$ -inch-long (32 mm) legs spaced at 6 inches (152 mm) on center along all studs and perimeters. The coating shall then be applied at a nominal  $3/8$ -inch (9.5 mm) thickness in accordance with Section 4.1 of this report.

**4.4.3.3 Axial Load Design:** Axial loads applied to the wall assembly shall be limited by the lesser of the following:

- 1,100 pounds (4,890 N) per stud
- A maximum of 44.7 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  at a maximum  $l/d$  of 33 calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).

#### 4.4.4 Fourth Assembly (Limited Load Bearing):

**4.4.4.1 Interior Face:** Materials and construction shall be as set forth in Section 4.4.3.1 of this report.

**4.4.4.2 Exterior Face:** The open framing shall be covered with two layers of water-resistive barrier, as described in Section 3.2.9.1 of this report. One-inch-thick (25.4 mm), Type II EPS insulation board, having a nominal density of 1.5 pcf (24 kg/m<sup>3</sup>), and described in Section 3.2.3 of this report, shall be attached to framing with  $17/8$ -inch-long (48 mm) galvanized steel roofing nails [head diameter of 0.375 inch (9.5 mm), shank diameter of 0.125 inch (3.2 mm)] spaced at 12 inches (305 mm) on center along all framing and plates. One layer of wire fabric lath, described in Section 3.2.4.1 of this report, with a minimum 2-inch (51 mm) overlap between pieces, shall be applied over the EPS insulation board and fastened with electrogalvanized, No. 16 gage,  $13/4$ -inch-crown (44 mm) staples having  $13/4$ -inch-long (44 mm) legs spaced at 6 inches (152 mm) on center along all framing and perimeters. The coating shall then be applied at a nominal  $3/8$ -inch thickness (9.5 mm) in accordance with Section 4.1 of this report.

**4.4.4.3 Axial Load Design:** Axial loads applied to the wall assembly shall be limited by the lesser of the following:

- 1,100 pounds (4,890 N) per stud
- A maximum of 44.7 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).
- Design stress of  $0.78 F'_c$  at a maximum  $l/d$  of 33 calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS-01 (IBC and IRC) or ANSI/NFoPA NDS-91 (UBC).

#### 4.5 Miscellaneous:

**4.5.1 Inspection Requirements:** Building department inspection shall be required on wire lath installation prior to application of the coating as noted in IBC Section 109.3.5 for jurisdictions adopting the IBC or IRC, or UBC Section 108.5.5 for jurisdictions adopting the UBC.

**4.5.2 Control Joints:** Control joints shall be installed as specified by the architect, designer, builder or exterior coating manufacturer, in that order.

**4.5.3 Curing:** Moist curing shall be provided for a minimum of 24 hours after coating application, unless temperatures are 60°F (15.6°C) or less during the curing.

**4.5.4 Soffits:** The system may be applied to soffits, provided the coating is applied over metal lath complying with Section 3.2.4.2 of this report in lieu of wire fabric lath. Expanded metal lath fastening shall comply with IBC Section 2510.3, IRC Section R703.6.1 or UBC Table 25-C, as applicable, except that the fastener length shall be increased by the thickness of any substrate.

**4.5.5 Sills:** The system may be applied to sills at locations such as windows and 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-resistant barrier and substrate are installed in accordance with the applicable sections of this report. Sills with depths exceeding 6 inches (152 mm) shall have substrates of solid wood or plywood. The substrate shall be fastened in accordance with IBC Table 2304.9.1, IRC Section R602.3 or UBC Table 23-II-B-1, as applicable, and a double layer of Grade D water-resistive barrier is applied over the substrate. The lath, optional EPS or XEPS insulation board, and coating shall be applied in accordance with Section 4.2 of this report.

## 5.0 CONDITIONS OF USE

The Kwik Kote one-coat stucco systems described in this report comply with, or are suitable alternatives to what is specified in, those codes specifically listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Materials and methods of installation shall comply with this report and the manufacturer's published installation instructions. If conflicts exist between this report and the manufacturer's published installation instructions, this report shall govern.
- 5.2 Installation shall be by contractors approved by the manufacturer.
- 5.3 The system is recognized as a one-hour fire-resistance-rated assembly when installed in accordance with Section 4.4 of this report.
- 5.4 The coating system shall be limited to Type V construction (IBC and UBC), and structures constructed in accordance with the IRC.
- 5.5 In jurisdictions adopting the UBC, the coating system, without insulation board, is permitted to be attached to the surface of combustible exterior fire-resistive

assemblies described in UBC Table 7B without a change in the assigned hourly rating of the assembly.

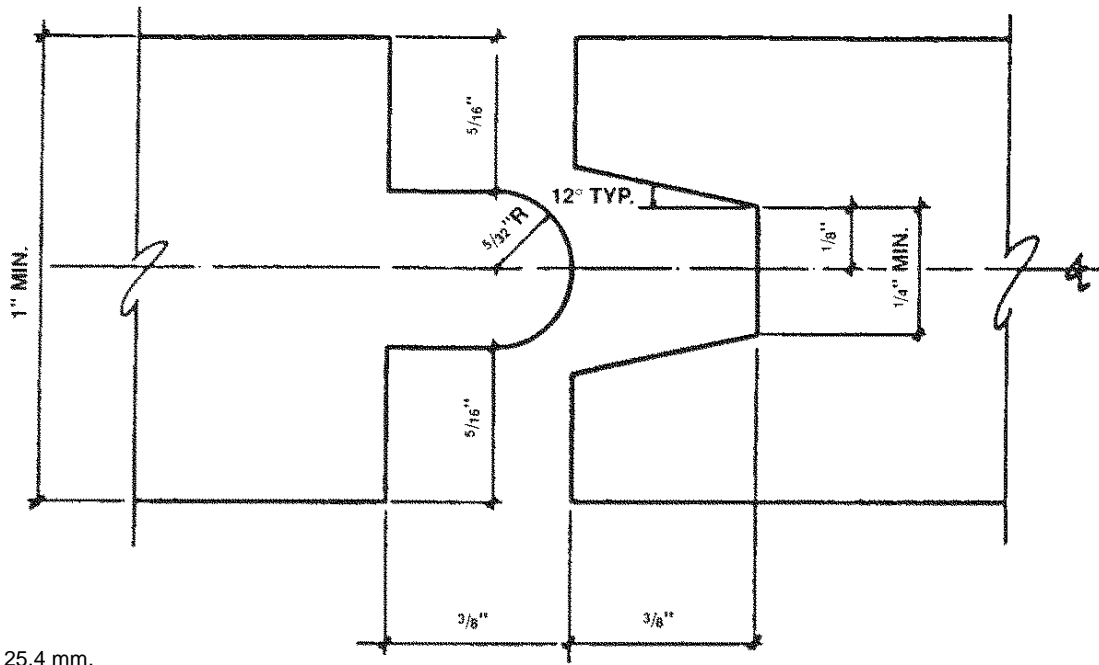
- 5.6 The interior of the building shall be separated from the insulation board with a thermal barrier complying with the applicable code, such as 1/2-inch-thick (12.7 mm) regular gypsum wallboard mechanically attached in accordance with the applicable code.
- 5.7 A completed installation card, as shown in Figure 3 of this report, shall be left at the jobsite for the owner, and a copy filed with the building department.
- 5.8 Foam plastic insulation board shall not be placed on exterior walls of wood construction located within 6 inches (152 mm) of the ground where hazard of termite damage is very heavy, in accordance with IRC Section 320.4.
- 5.9 The allowable wind load on the systems with wood or steel framing 24 inches (610 mm) on center, maximum, is 35 psf (1676 Pa), positive or negative. Support framing shall be adequate to resist the required wind load.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Cementitious Exterior Wall Coatings (AC11), dated October 2003 (editorially revised October 2004).
- 6.2 Reports of tests of fire-resistance-rated assemblies in accordance with ASTM E 119.
- 6.3 A quality control manual.

## 7.0 IDENTIFICATION

- 7.1 The factory-prepared mixes shall be delivered to the jobsite in water-resistant bags or containers with labels bearing the following information:
  - a. Name and address of manufacturer (Kwik Kote Corporation) and the evaluation report number (ESR-1711).
  - b. Identification of components.
  - c. Weight or volume of packaged mix.
  - d. Storage instructions.
  - e. Maximum amount of water and other components that may be added and conditions that shall be considered in determining actual amount.
  - f. Curing instructions.
- 7.2 Insulation boards shall be identified in accordance with their respective ICC-ES evaluation reports. Additionally, the board density of insulation boards shall be noted.



For SI: 1 inch = 25.4 mm.

FIGURE 1—TONGUE AND GROOVE

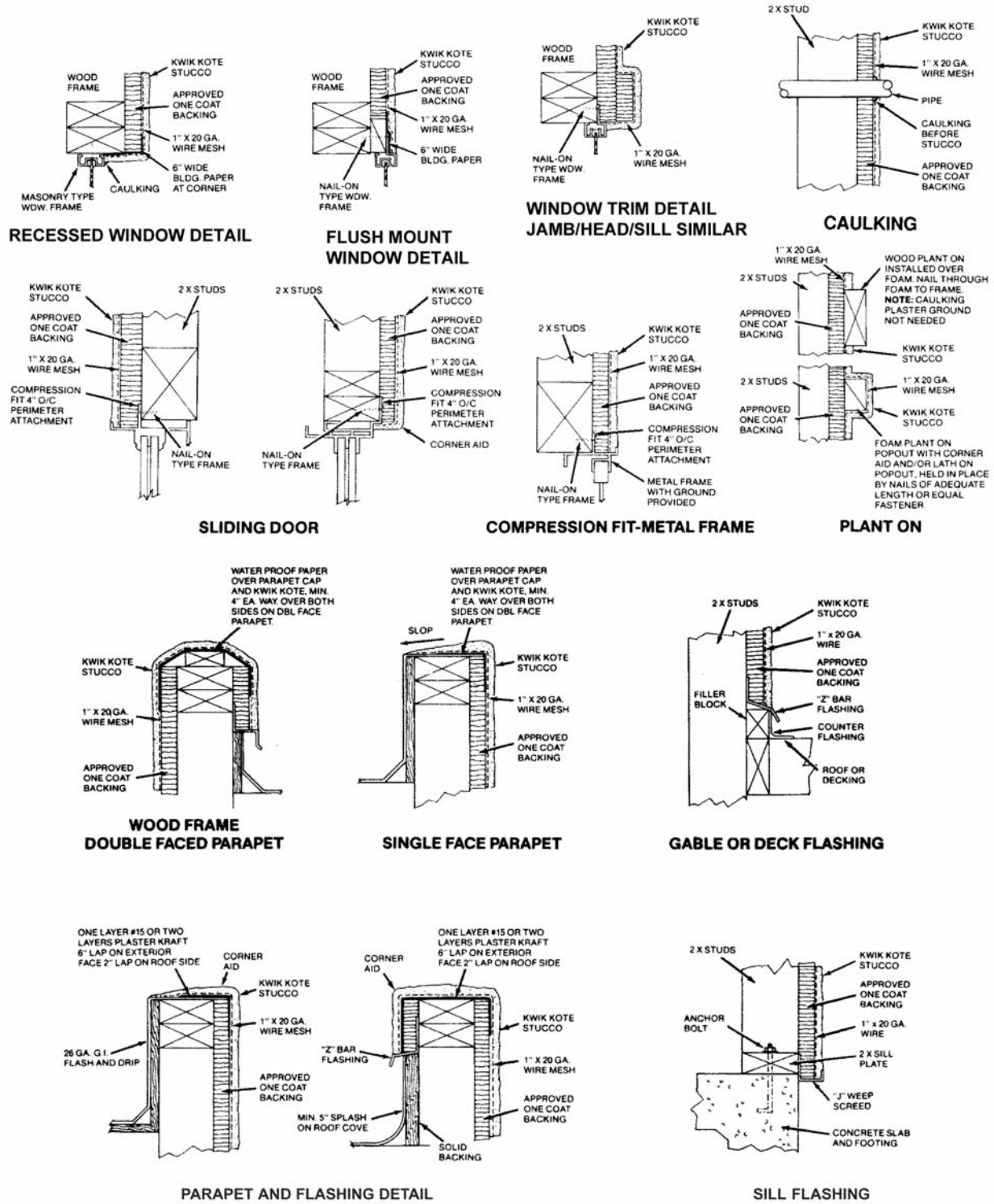
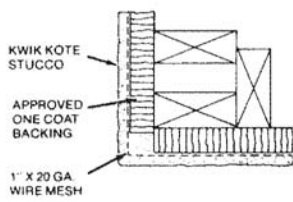
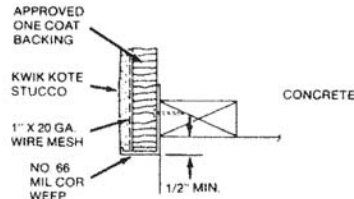


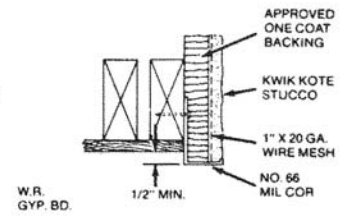
FIGURE 2



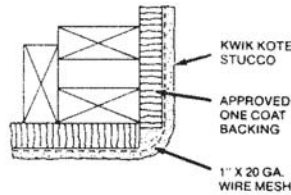
**SQUARE CORNER DETAIL**



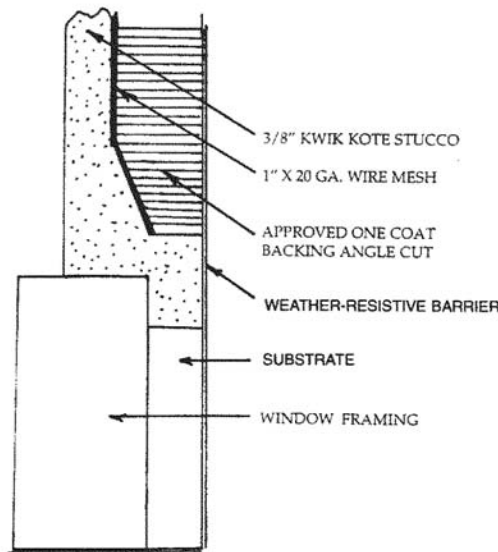
**SILL DETAIL**



**SOFFIT DETAIL**



**RADIUS CORNER DET.**



**WINDOW STUCCO KEY**

**FIGURE 2 (Continued)**

**NOTE:** When installation is over solid substrates, the water resistive barrier shall be installed over all substrates (including optional insulation board described in Section 4.3 of this report), except in jurisdictions adopting the UBC, where the barrier is permitted to be installed behind the optional insulation board. When installation is over open framing, the water resistive barrier shall be installed behind the insulation board. See Section 3.2.9.1 of this report.



**INSTALLATION CARD**

**Job Address:**

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

**Stucco System Tradename: KWIK KOTE**

**Name of Stucco Manufacturer: KWIK KOTE CORP.**

ICC Evaluation Service, Inc.  
Evaluation Report ESR-1711  
Date of Job Completion \_\_\_\_\_

Stucco Contractor

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

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

Telephone Number: \_\_\_\_\_

Approved Contractor Number as issued by KWIK KOTE.

This is to certify that the stucco system on the building exterior at the above address has been installed in accordance with the evaluation report specified above and the KWIK KOTE instructions.

\_\_\_\_\_  
Signature of authorized representative of stucco contractor

\_\_\_\_\_  
Date

**FIGURE 3**