

FWFO.EWS0030 - EXTERIOR WALL SYSTEMS

FWFO - Exterior Wall Systems

See General Information for Exterior Wall Systems

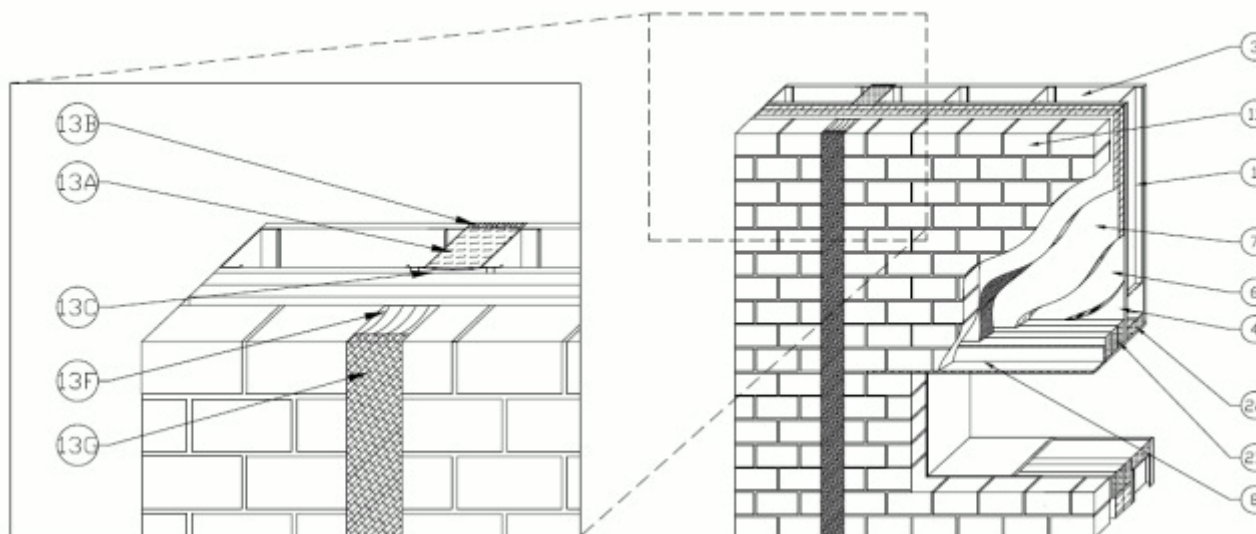
System No. EWS0030

April 16, 2019

ASTM E2357 - 0.002 cfm/ft² (0.009 l/s·m²) @ 75 Pa (1.57 psf) - Category 1

ASTM E331 - 2 hr @ 300 Pa (6.27 psf)

Exterior Wall System



1. Steel Studs — Min 5-1/2 in. (140 mm) deep, formed of min 20 ga. galv steel spaced max 16 in. (406 mm) OC. Additional studs to be used to completely frame window openings.

1A. Alternate Base Walls (Not Shown) — Cast concrete walls or concrete masonry units (CMU) concrete walls may be used in lieu of Items 1, 3 and 4.

2. Window System — The following items shall be used as framing materials:

A. **Treated Lumber (BPVV)*** — Window Framing — One layer of nom 2 by 6 in. (50 by 152 mm) treated lumber secured to steel studs with two rows of min No. 6 by 1-7/8 in. (48 mm) self-tapping steel screws, spaced max 12 in.(305 mm) OC, to line framed window opening.

HOOVER TREATED WOOD PRODUCTS INC — Pyro-Guard

B. **Treated Lumber (BPVV)*** — Buck Extension — Three layers of nom 2 by 4 in. (50 by 102 mm) treated lumber secured to steel studs (Item 1) and window framing with one row of min No. 8 by 2-5/8 in. (67 mm) self-tapping steel screws and a second row of min No. 10 by 2-1/2 in. (64 mm) wood screws, spaced max 16 in. (406 mm) OC, to frame exterior window opening. Each additional layer is secured with two rows of min No. 10 by 2-1/2 in. (64 mm) wood screws, spaced max 16 in. (406 mm) OC, to the previous layers.

HOOVER TREATED WOOD PRODUCTS INC — Pyro-Guard

3. Interior Gypsum Board (CKNX)* — Min 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide, attached to steel studs with 1-1/4 in. (32 mm) long, Type S steel screws spaced max 8 in. (203 mm) OC. Joints oriented vertically and covered with paper tape and joint compound. Screw heads covered with joint compound. Additional interior gypsum may be used to line depth of framed window opening in lieu of exterior sheathing (Item 4).

UNITED STATES GYPSUM CO — Type SCX

3A. Interior Wall System Component — Sealant (Optional - Not Shown) — Sealant may be applied to the interior gypsum board at areas and gaps of air leakage, such as penetrations and transitions. Not to exceed individual openings no greater than 5/8 in. (16 mm) diameter, and seam / joint openings no greater than 5/8 in. (16 mm) across.

AEROSEAL LLC — Aerobarrier X1

4. Exterior Gypsum Sheathing (CKNX)* — Exterior-grade glass mat sheathing gypsum board, minimum 1/2 in. (12.7 mm) thick, attached to steel studs with 1-1/4 in. (32 mm) long, Type S steel screws spaced max 8 in. (203 mm) OC. Joints oriented vertically or horizontally. Additional sheathing used to line depth of wood framed window opening.

UNITED STATES GYPSUM CO — Type USGX

5. Exterior Wall System Component (FWFX)* — Sealant — (Not Shown) - Sealant applied to all exterior sheathing joints and screw heads prior to application of air and vapor barrier membrane (Item 6). Additional sealant applied to gypsum sheathed window lining (Item 3 or 4) and buck extension (Item 2B) prior to application of air and vapor barrier membrane (Item 6).

TREMCO INC — Dymonic 100

6. Exterior Wall System Component (FWFX)* — Combustible Air and Vapor Barrier — Applied to completely cover the gypsum sheathing at a min thickness of 40 mil (1.0 mm) dry, 80 mil (2.0 mm) wet thickness.

TREMCO INC — ExoAir 130

7. Foam Insulation (BRYX)* — Max two layers of nom 4 by 8 ft (1.2 by 2.4 m) by 2 in. (51 mm) thick nom 1.55 pcf (24.8 kg/m³) extruded polystyrene insulation. First and second layer secured through gypsum sheathing into steel stud with min No. 10 by 3-1/2 in. (89 mm) and 5-1/2 in. (140 mm) long self-tapping steel screws in conjunction with 2 in. (51 mm) diameter, 0.2 in. (5 mm) thick plastic pronged continuous insulation washers. Screws/washers evenly spaced at min 4 per board per layer, to secure foam board.

OWENS CORNING FOAM INSULATION L L C — FOAMULAR 250

7A. Masonry Veneer Anchors — (Not Shown) — Max 3-1/2 in. (89 mm) zinc barrel screw masonry veneer anchors with min 1 in. (25 mm) long self-drilling tip attached into steel studs. Includes flanged head/integral zinc/EPDM washer, and thermal break clip to receive double pintle wire tie. Installed on each stud spaced 18 in. (457 mm) vertically with 2 in. (51 mm), 0.2 in. (5 mm) thick plastic pronged brick-tie washers.

8. Steel Lintel — Nom 3 by 4 in. (76 by 102 mm) by min 3/8 in. (10 mm) thick steel extending from face of the buck extension (Item 2B) into exterior brick (Item 11) at top of window opening and extending min 9 in. (229 mm) beyond each side of the window opening.

9. Flashing System — (Not Shown) — One of the following items may be used as flashing materials to cover the exterior air and vapor barrier (Item 6) by min 12 in. (305 mm), buck extension (Item 2B). Flashing materials to overlap onto steel lintel (Item 8) min 4 in. (102 mm) at top of window opening and extending min 5 in. (127 mm) beyond each side of the window opening:

A. Exterior Wall System Component (FWFX)* — Combustible Air and Vapor Barrier — Self-Adhered air and vapor barrier.

TREMCO INC — ExoAir 111

B. Metallic Flashing — Aluminum, bronze, copper, galvanized or stainless steel.

10. Mineral Wool — (Not Shown) — Nom 4 pcf (64 kg/m³), 4 in. (102 mm) thick mineral batt insulation installed within air gap along full height of window opening jambs, across sill and between the inside of the brick veneer (Item 11) and the buck extension (Item 2B), min 2 in. (51 mm) thick. Additional mineral batt insulation installed within each wall stud cavity at each floor line, held in place with any standard installation method.

11. Exterior Finishing — — The following items may be used as exterior finishing for the wall system:

A. Exterior Veneer — Brick — Nom 3-5/8 in.-thick clay brick offset to provide a max 1 in. (25 mm) air gap between foam insulation (Item 7) and brick veneer with standard type veneer anchors (Item 7A).

B. Concrete — Min 2 in. (51 mm) thick with max 1 in. (25 mm) air gap between exterior wall insulation (Item 7) and concrete.

C. Concrete Masonry Units — Min 2 in. (51 mm) thick with max 1 in. (25 mm) air gap between exterior wall insulation (Item 7) and concrete masonry units

D. **Stone Veneer** — Min 2 in. (51 mm) thick natural stone veneer with any standard non-open joint installation technique.

E. **Terracotta Cladding** — Min 1-1/4 in. (32 mm) thick with any standard non-open joint installation technique such as ship lap.

F. **Stucco** — Min 3/4 in. (19 mm) thick exterior cement plaster lath.

12. **Window Flashing** — (Optional) — (Not Shown) — Formed of min 0.040 in. (1 mm) aluminum, bronze, copper, galvanized or stainless steel to completely line window opening and overlap onto both surfaces of the wall assembly a min 1/2 in. (13 mm).

13. **Vertical Expansion Joint System** — (optional) - A maximum 4 in. (102 mm) wide, vertically oriented expansion joint that penetrates through the base wall (Items 1, 1A, 3, & 4) and the exterior cladding (Item 11) of the wall assembly. Expansion joints may be used with steel stud and gypsum board base walls (Items 1, 3, & 4) or alternate base walls (Item 1A) as long as the base wall is of minimum 4 in. depth. In any type of construction the expansion joint does not penetrate combustible insulation within the wall cavity. If alternate base walls (Item 1A) are used, then the perimeter of openings within the exterior wall must be protected with window system materials as described in Items 2, 3, & 4. Vertical expansion joints shall be located minimum 8-7/8 in. (225 mm) from the nearest vertical edge of openings in the exterior wall assembly. The vertical expansion joint shall consist of the following materials as follows:

Base Wall Expansion Joint Materials

A. **Batts and Blankets (BKNV)*** — Mineral wool insulation - Minimum 4 pcf mineral wool insulation friction fit in between studs which form the vertical expansion joint, or friction fit within opening in concrete or CMU wall for masonry type walls. Insulation shall be under minimum 34% compression when compressed into the base wall joint. Insulation shall be minimum 4 in. deep, recessed 1/2 in. from interior and exterior surfaces of the base wall. If joint is employed in an uninsulated concrete wall, the insulation shall be recessed 1/2 in. from the interior facing side of the wall.

THERMAFIBER INC — Type SAF

B. **Exterior Wall System Component (FWFX)*** — Sealant - Sealant applied to full width of expansion joint, filling recessed cavity of insulation on interior wall side of mineral wool insulation (Item 13A). May also be used to fill exterior side of insulation recess (Item 13A) in lieu of items 13C and 13D.

TREMCO INC — Dymonic 100

C. **Exterior Wall System Component (FWFX)*** — Flexible membrane seal - Nom 6 in. (152 mm) wide extruded silicone rubber flashing spanning exterior surface of stud wall with nominal 1 in. engagement on each side of joint, adhered to exterior side of base wall with sealant (Item 13D). If no stud wall is present, such as uninsulated concrete walls, then the use of this item is optional.

TREMCO INC — Proglaze ETA

D. **Exterior Wall System Component (FWFX)*** — Sealant - (Not shown) Sealant applied to edges of silicone rubber flashing (Item 13C) to adhere to exterior face of stud wall or masonry back up wall.

TREMCO INC — Spectrem 1

Exterior Cladding Expansion Joint Materials

E. Exterior Wall System Component (FWFX)* — Adhesive primer - (Not shown) Adhesive primer applied to interior surfaces of exterior cladding that interface with self-expanding foam material (Item 13F).

TREMCO INC — ExoAir Primer

F. Exterior Wall System Component (FWFX)* — Self-Expanding Flexible Foam Joint Seal - A peel and stick flexible joint seal material built up in multiple layers to completely fill exterior joint when expanded. Unexpanded thickness should be 1/2 to 3/4 of the joint width to ensure complete filling of joint. Recessed nominal 1/2 in. from exterior face of wall assembly. Minimum depth of joint seal material shall be 2-3/4 in.

TREMCO INC — Illmod 600

G. Exterior Wall System Component (FWFX)* — Exterior Cladding Sealant - Sealant applied to full width of expansion joint, filling recessed cavity of self-expanding foam seal from exterior cladding surface.

TREMCO INC — Dymonic 100, Spectrem 3, or Spectrem 1

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

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