

**Design No. U356**  
**BXUV.U356**  
**Fire-resistance Ratings - ANSI/UL 263**

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**Design/System/Construction/Assembly Usage Disclaimer**

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, systems, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

**Fire-resistance Ratings - ANSI/UL 263**

See General Information for Fire-resistance Ratings - ANSI/UL 263

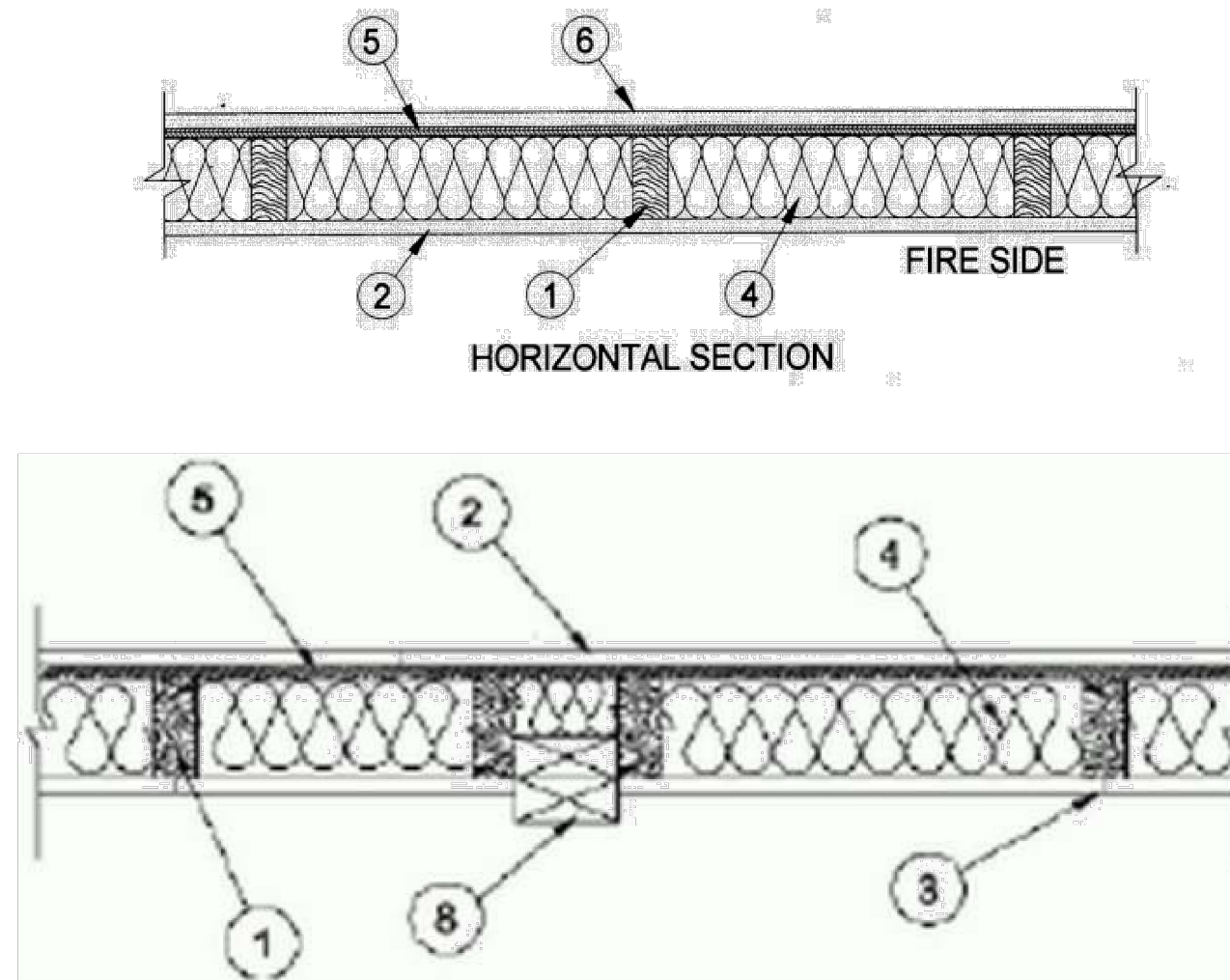
**Design No. U356**

October 16, 2013

(Exposed to Fire on Interior Face Only)

Rating Wall Rating – 1 Hr

Finish Rating – 23 Min or 25 Min (See Item 2C)

Load Restricted for Canadian Applications – See Guide **BXUV**

1. **Wood Studs** – Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When Mineral and Fiber Boards (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.
2. **Gypsum Board\*** – Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.

When Item 7, **Steel Framing Members\***, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 7A, 7B, or 7C **Steel Framing Members\***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.

**ACADIA DRYWALL SUPPLIES LTD** (View Classification) – CKNX.R25370

**AMERICAN GYPSUM CO** (View Classification) – CKNX.R14196

**BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO** (View Classification) – CKNX.R19374

**CERTAINTEE GYPSUM CANADA INC** (View Classification) – CKNX.R15187

**CERTAINTEE GYPSUM INC** (View Classification) – CKNX.R3660

**CGC INC** (View Classification) – CKNX.R19751

**GEORGIA-PACIFIC GYPSUM L L C** (View Classification) – CKNX.R2717

**LAFARGE NORTH AMERICA INC** (View Classification) – CKNX.R18482

**LOADMASTER SYSTEMS INC** (View Classification) – CKNX.R11809

**NATIONAL GYPSUM CO** (View Classification) – CKNX.R3501

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** (View Classification) – CKNX.R7094

**PANEL REY SA** (View Classification) – CKNX.R21796

**SIAM GYPSUM INDUSTRY (SARABURI) CO LTD** (View Classification) – CKNX.R19262

**THAI GYPSUM PRODUCTS PCL** (View Classification) – CKNX.R27517

**UNITED STATES GYPSUM CO** (View Classification) – CKNX.R1319

**USG MEXICO S A DE C V** (View Classification) – CKNX.R16089

2A. **Gypsum Board\*** – (As an alternate to Item 2, not shown) - Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified Companies listed below shown in the **Gypsum Board\*** (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

**CGC INC**

**UNITED STATES GYPSUM CO**

**USG MEXICO S A DE C V**

2B. **Gypsum Board\*** – (As an alternate to Item 2, not shown) - 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

**ACADIA DRYWALL SUPPLIES LTD** – Type X

**AMERICAN GYPSUM CO** – Types AGX-1, M-Glass, AG-C

**CERTAINTEE GYPSUM INC** – Type C or Type X

**CERTAINTEE GYPSUM CANADA INC** – Type C, Type X, Type EGRG, Type GlasCo

**GEORGIA-PACIFIC GYPSUM L L C** – Types X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type X ComfortGuard Sound Dampening Gypsum Board.

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** – Types PG-11, PGS-WRS.

**THAI GYPSUM PRODUCTS PCL** – Type C or Type X

2C. **Gypsum Board\*** – (As an alternate to Item 2, not shown) - For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in. and 4 in. from edges of board. Finish Rating is 25 min.

**GEORGIA-PACIFIC GYPSUM L L C** – Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X,Soffit-Type X

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** – Types PG-11, PGS-WRS.

2D. **Gypsum Board\*** – (As an alternate to Item 2) - Not to be used with Item 7, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.

**NATIONAL GYPSUM CO** – SoundBreak, XP Type X Gypsum Board

2E **Wall and Partition Facings and Accessories\*** – (As an alternate to Items 2 through 2D) – Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.

**SERIOUS ENERGY INC** – Type QuietRock ES, Type QuietRock QR-527.

2F. **Gypsum Board\*** – (As an alternate to Item 2) - Not to be used with Item 7, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.

**CERTAINTEE GYPSUM INC** – Type SilentFX

3. **Joints and Nailheads** – (Not Shown) – Wallboard joints covered with tape and joint compound. Nail heads covered with joint compound.

4. **Batts and Blankets\*** – Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).

See **Batts and Blankets\*** (BKNV) Category in the Building Materials Directory and **Batts and Blankets\*** (BZ1Z) Category in the Fire Resistance Directory for names of Classified Companies.

4A. **Fiber, Sprayed\*** – (As an alternate to Batts and Blankets (Item 4) – Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft<sup>3</sup>. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft<sup>3</sup>, in accordance with the application instructions supplied with the product.

U **S GREENFIBER L L C** – INS735 & INS745 for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS745, INS765LD, and INS770LD are to be used for dry application only.

4B. **Fiber, Sprayed\*** – (As an alternate to Item 4 and 4A – Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft<sup>3</sup>.

**NU-WOOL CO INC** – Cellulose Insulation

4C. **Fiber, Sprayed\*** – (As an alternate to Batts and Blankets (Item 4) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft<sup>3</sup>.

**INTERNATIONAL CELLULOSE CORP** – Celbar-RL

5. **Wood Structural Panel Sheathing** – Min 7/16 in. thick, 4 ft wide wood structural panels, min grade “C-D” or “Sheathing”. Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

5A. **Mineral and Fiber Boards\*** – (As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistant barrier may be applied over the Mineral and Fiber Boards.

**TEMPLE-INLAND FORTUNE PRODUCTS CORP** – Types FibreCrae or QuatBreaC

6. **Exterior Facings** – Installed in accordance with the manufacturer’s installation instructions. One of the following exterior facings is to be applied over the sheathing:

A. **Vinyl Siding – Molded Plastic\*** – Contoured rigid vinyl siding having a flame spread value of 20 or less.

See Molded Plastic (BTAT) category in the Building Materials Directory for names of manufacturers.

B. **Particle Board Siding** – Hardboard exterior sidings including patterned panel or lap siding.

C. **Wood Structural Panel or Lap Siding** – APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

D. **Cementitious Stucco** – Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.

E. **Brick Veneer** – Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie; ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.

F. **Interior Insulation and Finish System (EIFS)** – Nom 1 in. Foamed Plastic\* insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer’s instructions. See **Foamed Plastic** (BRXV and CCVV) category for names of Classified companies.

G. **Trimming** – Aluminum or steel siding attached over sheathing to studs.

H. **Fiber-Cement Siding** – Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

7. **Steel Framing Members** – (Optional, Not Shown)\* – Furring Channels and Steel Framing Members as described below:

a. **Furring Channels** – Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members\*** – Used to attach furring channels (Item 7A) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. R51C-1 clip for use with 2-9/16 in. wide furring channels. R51C-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

**PAC INTERNATIONAL INC** – Types R51C-1, R51C-1 (2.75).

7A. **Steel Framing Members (Optional, Not Shown)\*** – Furring channels and Steel Framing Members as described below:

a. **Furring Channels** – Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members\*** – Used to attach furring channels (Item 7A) to interior side of studs. Clips spaced 48 in. OC, and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

**KINETICS NOISE CONTROL INC** – Type IsoSmak.

7B. **Steel Framing Members\*** – (Optional, Not Shown) - Furring channels and Steel Framing Members as described below:

a. **Furring Channels** – Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members\*** – Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Gie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**PLITEQ INC** – Type Genie Clip

7C. **Steel Framing Members** – (Optional, Not Shown)\* – Furring channels and resilient sound isolation clip as described below:

a. **Furring Channels** – Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 2. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

b. **Steel Framing Members\*** – Resilient sound isolation clip used to attach furring channels (Item 7Ca) to studs. Clips spaced 16 in. OC, and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**STUDDO BUILDING SYSTEMS** – RESILMOUNT Sound Isolation Clips - Type A237R

8. **Non-Bearing Wall Partition Intersection** – (Optional) Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC, vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC, vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC, vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

\*Bearing the UL Classification Mark

When the UL Leaf Mark is on the product, or when the word “Environment” is included in the UL Mark, please search the [UL Environment database](#) for additional information regarding this product’s certification.

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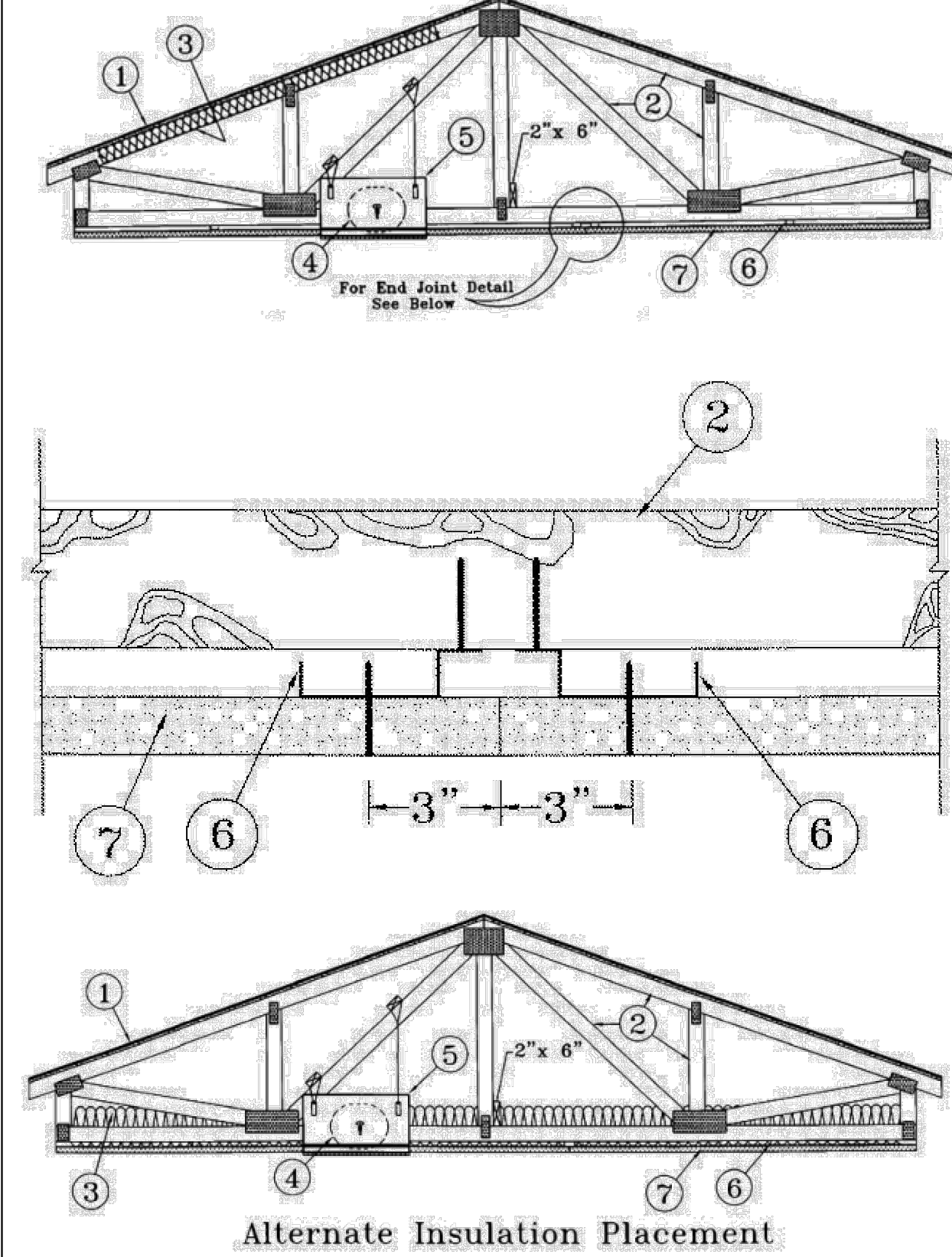
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**Design No. P522**

July 01, 2013

Unrestrained Assembly Rating – 1 Hr

Finish Rating – 25 Min (See Items 3 or 3A )

Load Restricted for Canadian Applications – See Guide **BXUV**

**Alternate Insulation Placement**

1. **Roofing System\*** – Any UL Class A, B or C Roofing System (TGFI) or Prepared Roof Covering (TFWC) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade “C-D” or “Sheathing”. Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or trusses.

2. **Trusses** – Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior wall, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets\*** – (Optional) - Required when Item 6B is used – Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bb). The finished rating has only been determined when the insulation is secured to the decking.

3A. **Fiber, Sprayed\*** – (As an alternate to Item 3 (not evaluated for use with Item 6B) – Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft<sup>3</sup>, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft<sup>3</sup> over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft<sup>3</sup> behind netting (Item 6C) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.

4. **Air Duct\*** – Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. **Ceiling Damper\*** – Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturer’s installation instructions provided with the damper. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.

**C&S AIR PRODUCTS** – Model RD-521

**POTTORFF** – Model CFD-521

**UNITED STATES GYPSUM CO** – Types C, IP-X2, IPC-AR.

**USG MEXICO S A DE C V** – Types C, IP-X2, IPC-AR.

5A. **Alternate Ceiling Damper\*** – Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturer’s installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.

**C&S AIR PRODUCTS** – Model RD-521-BT

**POTTORFF** – Model CFD-521-BT.

6. **Furring Channels** – Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to studs with two self-tapping #6 framing screws (2 per side 1 in. and 4 in. from overlap edge). Additional clips are required to hold the Gypsum Butt joints and side joints as described in Item 7.

6A. **Steel Framing Members** – (Not Shown)\* – (As an alternate to Item 6, furring channels and Steel Framing Members as described below:

a. **Furring Channels** – Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood studs. Channels secured to each truss with 1-1/4 in. long Type S screws.

b. **Steel Framing Members** – Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. R51C-1 and R51C-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. R51C-V and R51C-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. R51C-1 (2.75) and R51C-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Ba. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

**PAC INTERNATIONAL INC** – Types R51C-1, R51C-V, R51C-1 (2.75), R51C-V (2.75).

6B. **Steel Framing Members\*** – (Not Shown) - As an alternate to Items 6 and 6A.

a. **Furring Channels** – Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through mounting holes on the hanger bracket. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board attached to furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels** – 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking** – Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), placed perpendicular to the truss and secured to the truss, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.