

① Product iQ will be unavailable on Friday, August 29, from 7:00pm - 12:00am CDT. We apologize for any inconvenience.

UL Product iQ®



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, system, 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.

## BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

## BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

[See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances](#)

[See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances](#)

Design No. **U425**

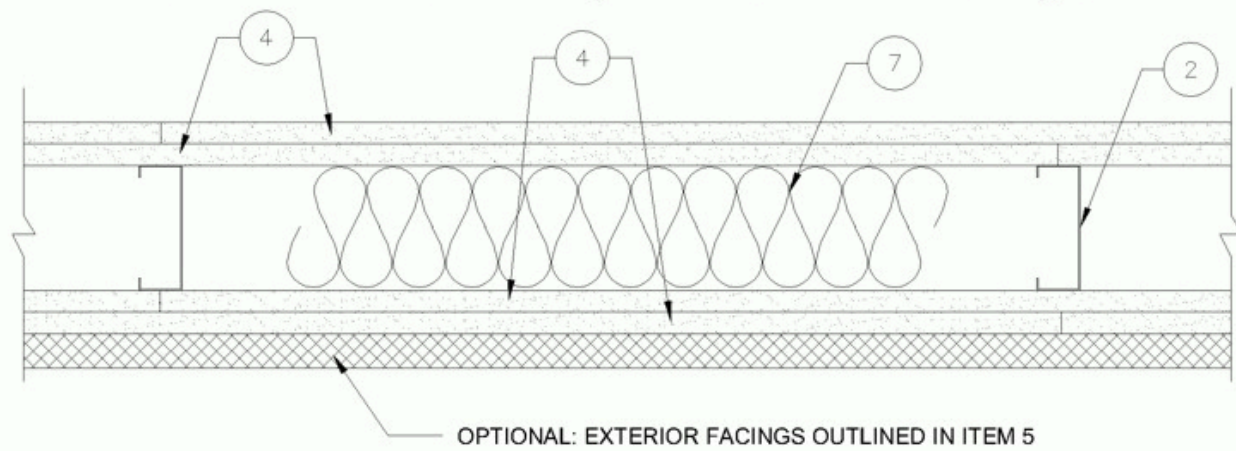
August 27, 2025

**Bearing Wall Rating — 3/4 Hr., 1, 1-1/2 or 2 Hr.  
(See Items 2, 4 and 5)**

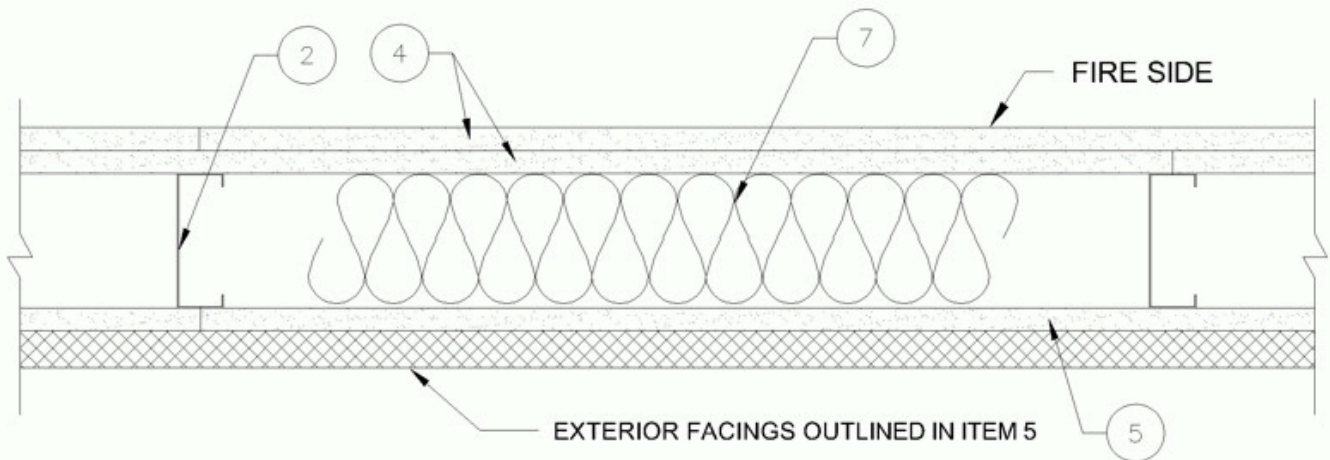
**This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide [BXUV](#) or [BXUV7](#)**

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

INTERIOR OR EXTERIOR WALL (FIRE FROM EITHER SIDE), SEE TABLE I



## EXTERIOR WALL (FIRE FROM INTERIOR SIDE ONLY), SEE TABLE II



1. **Steel Floor and Ceiling Tracks** — (Not Shown) — Top and bottom tracks of wall assemblies shall consist of steel members, min No. 20 MSG (0.0329 in., min bare metal thickness) steel or min No. 20 MSG (0.036 in. thick) galv steel or No. 20 MSG (0.033 in. thick) primed steel, that provide a sound structural connection between steel studs, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. O.C.

1A. **Steel Floor and Ceiling Tracks – Framing Members\*** — (Not shown) In lieu of Item 1 – For use with Item 2C, Min 3-5/8 in. wide, No. 20 MSG (0.0329 in., bare metal thickness) galv steel tracks designed in accordance with the Steel Framing Industry Association specifications. Steel floor and ceiling tracks shall provide a sound structural connection between steel studs, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. O.C.

**PANEL REY S A** – SUPRA Track 20/33 mil

2. **Steel Studs** — Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

2A. **Steel Studs – Framing Members\*** — In lieu of Item 2 — Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and

shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

**EB METAL INC — NITROSTUD**

**2B. Steel Studs — Framing Members\*** — In lieu of Item 2 — Min 3-5/8 in. wide, No. 20 MSG (0.036 in. min. thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

**BAILEY METAL PRODUCTS LTD**

**2C. Steel Studs – Framing Members\*** — In lieu of Item 2 through 2B – For use with Item 1A, Min 3-5/8 in. wide, No. 20 MSG (0.0329 in. min. thickness) galv steel studs designed in accordance with the Steel Framing Industry Association specifications. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

**PANEL REY S A – SUPRA Stud 20/33 mil**

**3. Lateral Support Members** — (Not Shown) — Where required for lateral support of studs, support may be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

**4. Gypsum Board\*** — **Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305.** Gypsum board bearing the UL Classification Marking as to Fire Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr and 2 hr ratings are as follows:

TABLE I		
Interior or Exterior Walls (Fire From Either Side)		
Wallboard Protection		
Both Sides of Wall -		
No. of Layers & Thkns		
Rating	of Board In. Each Layers	% of Design Load
45 min	1 layer, 1/2 in. thick	100
1 hr	1 layer, 5/8 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
2 hr	2 layers, 5/8 in. thick or	80
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

**Note:** Exterior facings allowed for use with Item 5 are also allowed to be installed on one side of the above walls.

**TABLE II**  
**Exterior Walls (Fire from Interior Side Only)**

<b>Wallboard Protection on Interior Side of Wall - No. of Layers &amp; Thkns of Board In. Each Layers</b>			<b>% of Design Load</b>
<b>Rating</b>			
45 min	1 layer, 5/8 in. thick		100
1 hr	2 layers, 1/2 in. thick		100
1-1/2 hr	2 layers, 5/8 in. thick		100
2 hr	3 layers, 1/2 in. thick		100
2 hr	2 layers, 3/4 in. thick		100

**AMERICAN GYPSUM CO** ([View Classification](#)) — CKNX.R14196

**BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO** ([View Classification](#)) — CKNX.R19374

**CABOT MANUFACTURING ULC** ([View Classification](#)) — CKNX.R25370

**CERTAINTED GYPSUM INC** ([View Classification](#)) — CKNX.R3660

**CGC INC** ([View Classification](#)) — CKNX.R19751

**CERTAINTED GYPSUM INC** ([View Classification](#)) — CKNX.R18482

**GEORGIA-PACIFIC GYPSUM L L C** ([View Classification](#)) — CKNX.R2717

**NATIONAL GYPSUM CO** ([View Classification](#)) — Riyadh, Saudi Arabia — CKNX.15208

**NATIONAL GYPSUM CO** ([View Classification](#)) — CKNX.R3501

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** ([View Classification](#)) — CKNX.R7094

**PANEL REY S A** ([View Classification](#)) — CKNX.R21796

**SIAM GYPSUM INDUSTRY (SARABURI) CO LTD** ([View Classification](#)) — CKNX.R19262

**THAI GYPSUM PRODUCTS PCL** ([View Classification](#)) — CKNX.R27517

**THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO** ([View Classification](#)) — CKNX.R40305

**UNITED STATES GYPSUM CO** ([View Classification](#)) — CKNX.R1319

**USG BORAL DRYWALL SFZ LLC** ([View Classification](#)) — CKNX.R38438

**USG MEXICO S A DE C V** ([View Classification](#)) — CKNX.R16089

**4A. Gypsum Board** — Nom. 3/4 in. gypsum board applied vertically with joints between layers staggered. The thickness and number of layers and percent of design load for the 2 hr ratings are shown in the table above.

**CGC INC** — Types AR, IP-AR, IP-X3, or ULTRACODE

**UNITED STATES GYPSUM CO** — Types AR, IP-AR, IP-X3, or ULTRACODE

**USG BORAL DRYWALL SFZ LLC** — Type ULTRACODE

**USG MEXICO S A DE C V** — Types AR, IP-AR, IP-X3, or ULTRACODE

**4B. Gypsum Board\*** — (As an alternate to Item 4) — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers on interior walls (multilayer systems) staggered a min of 12 in.

**GEORGIA-PACIFIC GYPSUM L L C** — GreenGlass Type X, Type DGG

**NATIONAL GYPSUM CO** — Type FSW-6.

**CERTAINTED GYPSUM INC** — GlasRoc

**4C. Gypsum Board\*** — (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 6.

**GEORGIA-PACIFIC GYPSUM L L C** — Type X ComfortGuard Sound Deadening Gypsum Board.

**NATIONAL GYPSUM CO** — Type SBWB

**4D. Wall and Partition Facings and Accessories\*** — (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** — Type QuietRock ES.

**4E. Wall and Partition Facings and Accessories\*** — (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** — Type QuietRock 527.

**4F. Gypsum Board\*** — (As an alternate to 5/8 in. Type FSW in Item 4) — Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4.

**NATIONAL GYPSUM CO** — Type FSW.

**4G. Wall and Partition Facings and Accessories\*** — (As an alternate to 5/8 in. thick board as outlined in Item 4) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened to studs as described in item 6.

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** — Type QuietRock 545

**4H. Gypsum Boards\*** - (As an alternate to Item 4 – For use with Item 10G) – An additional layer of the same thickness of gypsum board is required to what is shown in the table above in Item 4 for all ratings. Fastened to studs as described in Item 6.

5. **Gypsum Boards** — For exterior walls, Rating from Interior Side Only - 1/2 or 5/8 in. thick Classified or unclassified gypsum boards applied vertically and attached to studs and runner tracks with 1 in. long Type S-12 bugle head screws spaced 12 in. OC. along studs and tracks. One of the following exterior facings are to be applied over the gypsum board.

a. **Siding, Brick, or Stucco** — Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min 3-3/4 in. thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on either face. Brick veneer wall attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick. When a min 3-3/4 in. thick brick veneer facing is used, Foamed Plastic (Item 10) may be used.

b. **Cementitious Backer Units\*** — 1/2 or 5/8 in. thick, attached vertically or horizontally to steel studs over gypsum sheathing with 1-5/8 in. long, Type S-12, corrosion resistant, wafer head steel screws, spaced 8 in. OC. Studs spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.

**UNITED STATES GYPSUM CO** — Type DCB

**NATIONAL GYPSUM CO** — Type PermBase, or DuraBacker

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

d. **Molded Plastic\*** — Solid vinyl siding mechanically secured to framing members in accordance with manufacturer's recommended installation details.

**ALSIDE, DIV OF ASSOCIATED MATERIALS INC**

e. **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.

f. **Building Units\*** — (Not Shown) — 3 in. thick 18 x 24 in. cellular glass blocks, applied to the gypsum board (Item 5) with PC 88 adhesive or fastened with F anchors spaced a maximum 24 in. OC. F anchors fastened to framing members with 1-1/4 in. long #6 drywall screws.

**PITTSBURGH CORNING LLC** — FOAMGLAS® T3+ Block, FOAMGLAS® T4+ Block, FOAMGLAS® S3 Block, FOAMGLAS® F Block

6. **Fasteners** — (Not Shown) — Screws used to attach wallboard to studs: self-tapping bugle head sheet steel type, spaced 12 in. O.C. First layer Type S-12 by 1 in. long for 1/2 and 5/8 in. thick wallboards and 1-1/4 in. long for 3/4 in. thick wallboard. Second layer Type S-12 by 1-5/8 in. long for 1/2 and 5/8 in. thick wallboards and 2-1/4 in. long for 3/4 in. thick wallboard. Third layer Type S-12 by 1-7/8 in. long. Fourth layer Type S-12 by 2-1/2 in. long. Fasteners when Item 4G is used: First layer #6 x 2 in. long drywall screw spaced 8 in. OC along the perimeter and 12 in. OC in the field. Second layer #6 x 4 in. long drywall screw spaced 8 in. OC along the perimeter and 12 in. OC in the field. Horizontal joints to be staggered 12 in. between layers.

7. **Batts and Blankets\*** — Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance, of a thickness to completely fill stud cavity. See **Batts and Blankets\*** (BZJZ) Category for names of Classified companies.

7A. **Fiber, Sprayed\*** — As an alternate to Batts and Blankets (Item 7) — (100% Borate Formulation) — 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.

**Applegate Greenfiber Acquisition LLC** — Insulmax and SANCTUARY for use with wet or dry application.

**7B. Fiber, Sprayed\*** — As an alternate to Item 7 — 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

**7C. Fiber, Sprayed\*** — As an alternate to Batts and Blankets (Item 7) — 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

**7D. Fiber, Sprayed\*** — (Optional) — As an alternate to Batts and Blankets (Item 7) — Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

**AMERICAN ROCKWOOL MANUFACTURING, LLC** — Type Rockwool Premium Plus

**8. Joint Tape and Compound** — (Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints of outer layer.

**9. Furring Channels** — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

**9A. Steel Framing Members (Not Shown)\*** — (Optional; for single or double layer systems on one or both sides for Interior Walls, interior side only for Exterior Walls; Vertical gypsum board orientation only; not for use with Sprayed Fiber; not for use with Item 11) — As an alternate to Item 9, 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 max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. 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 6.

**b. Steel Framing Members\*** — Used to attach furring channels (Item 9A(a)) to Steel Studs (Item 2). Clips spaced max. 48 in. OC. staggered, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clip for use with 2-23/32 in. wide furring channels.

**PAC INTERNATIONAL L L C** — Types RSIC-1, RSIC-1 (2.75), RSIC-V, RSIC-V (2.75).

**9B. Steel Framing Members\*** — (Optional, Not Shown; for single or double layer systems on one or both sides for Interior Walls, interior side only for Exterior Walls; Vertical gypsum board orientation only; not for use with Sprayed Fiber; not for use with Item 11) — Used as a method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Ends of adjoining channels overlapped 6 in. and attached to studs with one accessory at the overlap. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions. Fasteners should be limited to the RC-1 Boost Steel Screw for use with the Type RC-1 Boost.

**PAC INTERNATIONAL L L C** — Type RC-1 Boost

**10. Foamed Plastic\*** — (Optional, Not Shown) For use with brick veneer as outlined in Item 5a - Maximum 2 in. thick rigid polystyrene insulation attached to studs with fasteners of sufficient length to penetrate the foam and 3/16 in. into the stud. A minimum 1 in. air space is to be maintained between the outer surface of the foamed plastic and the inner surface of the brick veneer.

**ATLAS MOLDED PRODUCTS, A DIVISION OF ATLAS ROOFING CORPORATION** — Type ThermalStar



**OWENS CORNING SCIENCE AND TECHNOLOGY, LLC**

**10A. Foamed Plastic\*** — (Optional, Not shown) — For use with brick veneer as outlined in Item 5a - Mortar drop protection - Foamed plastic with mortar control device attached, continuous, by drainage holes at bottom of air space behind brick veneer.

**OWENS CORNING SCIENCE AND TECHNOLOGY, LLC** — WeepGuard

**10B. Foamed Plastic\*** — Polyisocyanurate foamed plastic insulation boards, any thickness, Classified in accordance with BRYX and / or CCVW. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.

**ATLAS ROOFING CORP** — EnergyShield Pro Wall Insulation, EnergyShield Pro 2 Wall Insulation, EnergyShield CGF Pro, EnergyShield Ply Pro, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® and "EnergyShield® XR

**DUPONT DE NEMOURS, INC.** — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

**Holcim Solutions and Products US, LLC** — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

**HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC** — Type "Xci-Class A"," Xci 286", "Xci Foil (Class A)", "Xci CG", "Xci Foil", "Xci CG NH", "Xci Foil NH"

**RMAX, A BUSINESS UNIT OF SIKA CORPORATION** — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath"

**JOHNS MANVILLE** — Type "AP Foil-Faced Foam Sheathing"

**10C. Building Unit\*** — Polyisocyanurate foamed plastic composite insulation boards, any thickness, Classified in accordance with BZXX. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.

**ATLAS ROOFING CORP** — EnergyShield® Ply

**HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC** — Type "Xci NB" and "Xci Ply"

**LAMINATORS INC** — Type "Omega ci"

**RMAX, A BUSINESS UNIT OF SIKA CORPORATION** — Types Thermasheath-SI, ECOBASEci, ECOMAXci FR Ply, ThermaBase-CI, "ECOMAXci Ply", attached to studs with Type S screws long enough to penetrate the studs a minimum of three threads.

**10D. Foamed Plastic\*** — (As an alternate to Item 10 - Not Shown) — Expanded polystyrene insulation installed to a maximum nominal density of 2.0 lb/ft<sup>3</sup>.

**BASF CORP STYRENIC FOAMS DIV** — Types Neopor® GPS (Roofing Board), Neopor® GPS (EIFS), Neopor® GPS (Stucco), Neopor® GPS (CI), Neopor® GPS (IE), Neopor® GPS (Perma R-Chrome), Neopor® GPS (Termite Treated), Neopor® GPS (HALO Subterra), Neopor® GPS (Foundation PRO), Neopor® GPS (HALO Exterra), Neopor® GPS (HALO Interra), Neopor® GPS (PFT Pro Board), Neopor® GPS (PFT Red Label), and Neopor® GPS (PFT Chrome).

**10E. Foamed Plastic\*** — (Optional, As an alternate to Item 10 - Not Shown) — Spray applied, foamed plastic insulation, at any thickness, Classified in accordance with CCVW. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.

**CARLISLE SPRAY FOAM INSULATION** — Types SealTite ONE, SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

**10F. Foamed Plastic\*** — (Optional, as an alternate to Item 10 - Not Shown) — Spray applied, foamed plastic insulation, at any thickness, Classified in accordance with CCVW. To be used with any exterior facing shown under items 5a, 5c, 5d and 5e when installed in accordance with the requirements of local code agencies.

**BASF CORP** — Types Enertite® NM, Enertite® G, FE137®, FE158®, Spraytite® 158, Spraytite® SP, Spraytite® 81205, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite® HP+, Walltite® MAX, Walltite® LWP, Walltite® Plus, Walltite® One, and Enertite® Max

**10G. Foamed Plastic\*** — (Optional, as an alternate to Item 10 – For use with Item 4G) — Spray applied, foamed plastic insulation, at any thickness, Classified in accordance with CCVW. To be used with any exterior facing shown under items 5a, 5c, 5d and 5e when installed in accordance with the requirements of local code agencies.

**BASF CORP** — Types Walltite® v.5

**11. Cementitious Backer Units\*** — (Optional, Not Shown - For Use as an additional layer over required gypsum boards) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.

**NATIONAL GYPSUM CO** — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

**11A. Building Units** – (Optional Item Not Shown – For use over Gypsum Board, Item 4 or Item 5) 1 in., 2 in. or 3 in. thick, 4 ft. wide – Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of 3/4 in., spaced a max 8 in. o.c.

**NATIONAL GYPSUM CO** – Type PBCI

**12. Wall and Partition Facings and Accessories\*** — (CLBV) (Optional, Not Shown) — For use with Item 1, Items 2 and 2A, Item 3, Item 4 to 4B, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to 4B), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When RefleXor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to 4B shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to 4B except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 7.

On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with min. 1-1/4 in. long drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 (or 4 alternates) with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

Alternately, on the other side of the wall prior to the installation of the Gypsum Board (Item 4), install 3/4 in. thick SONOpan panels, secured to one side of studs either horizontally or vertically. Panels secured to each stud with min. 1-1/4 in. long drywall screws spaced 12 in. OC. Over the SONOpan, install 25 MSG galv steel, Resilient Channels, spaced vertically 24 in. OC. Resilient Channels fastened through panels to each stud with min. 2 in. long drywall screws or self-tapping screws. Over the Resilient Channels install Gypsum Board as specified in Item 4 (or 4 alternates) with drywall screws as specified in Item 6. Panels not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

**MSL** — RefleXor membrane, SONOpan panel.

**13. Wall and Partition Facings and Accessories\*** — (Optional, Not Shown) - **When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below.**

**A. Non Insulated System with Metal Channels** — Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco illmod 600 pre compressed polyurethane foam sealant.

**B. Insulated System with Metal Channels** — Install moisture barrier over the Gypsum Board Item 4. Install galvanized Z girt channels specified by the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max. spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the Steel Studs Item 2, with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

**C. Non-Insulated Wood Strapping System** — Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2, using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

**D. Insulated Wood Strapping System** — Install moisture barrier over the Gypsum Board Item 4. Install Extruded Polystyrene Insulation over moisture barrier, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

**ACRYTEC PANEL INDUSTRIES** — Nominal 5/8 inch thick Acrytec Panel.

**\* 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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