

BXUV.U418 - Fire-resistance Ratings - ANSI/UL 263



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. U418

October 19, 2020

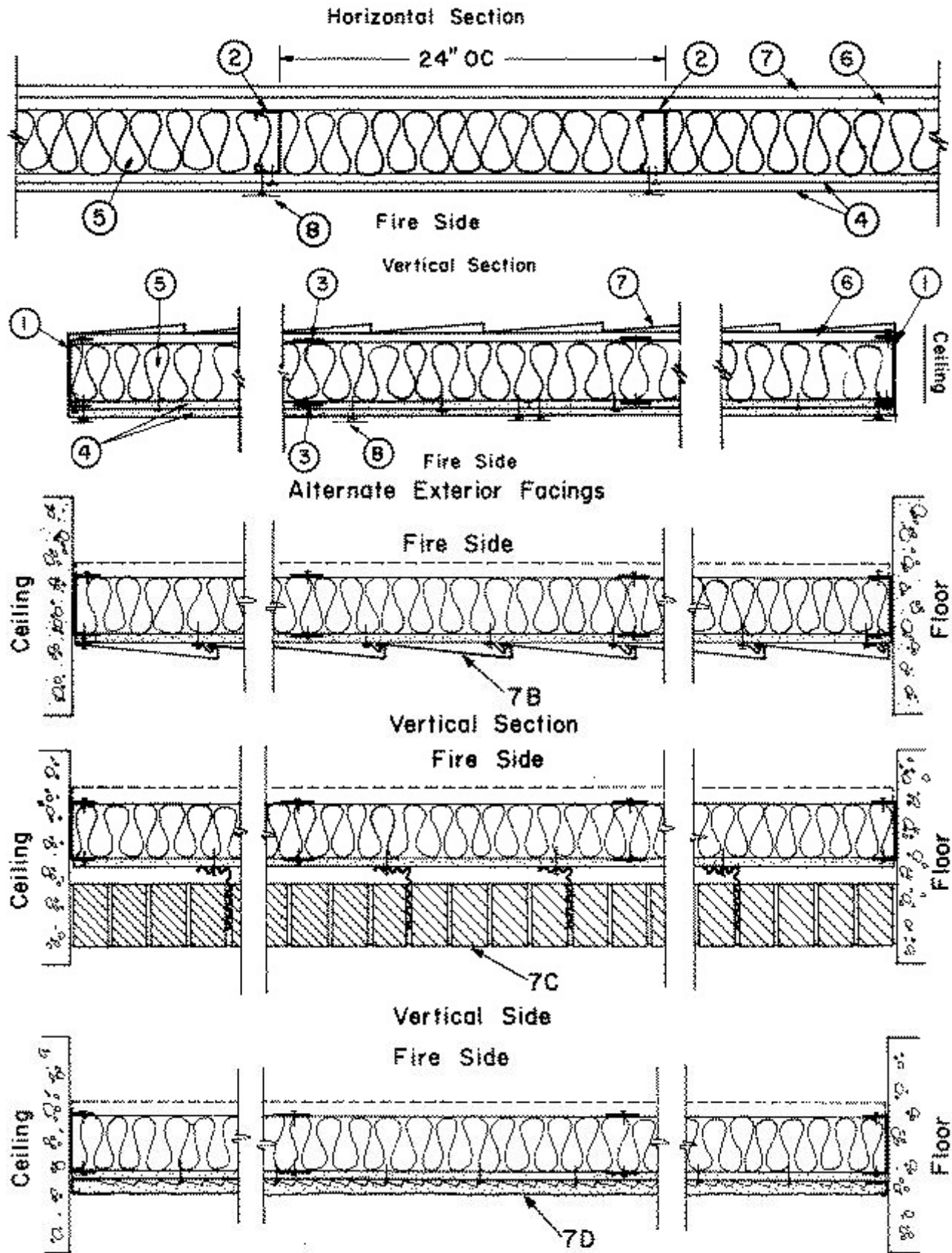
(Exposed to Fire on Interior Face Only)

Bearing Wall Rating — 3/4 Hr., 1 or 2 Hr.

(See Item 4)

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.**



Vertical Section

1. **Floor and ceiling tracks** — Channel shaped, 3-5/8 in. or 5-5/8 in. wide with 1-1/2 in. flanges. Fabricated from No. 18 GSG galv steel. Attached to floor and ceiling with fasteners spaced 24 in. O.C.

2. **Steel Studs** — C-shaped, fabricated from min No. 18 GSG (0.051 in. thick) galv steel, 3-1/2 in. or 5-1/2 in. wide with 1-1/2 in. flanges and 1/2 in. returns (stiffening flanges.) Min yield strength 40,000 psi. See Ill. 12 of Report R7760-1, -2 dated Dec.

11, 1975 or Ill. 15 of Report R7760-3, -4 dated Aug. 23, 1976 for tables containing max allowable axial loads. Report Ills. available from U. S. Steel Corp., Rm. 1846, 600 Grant St., Pittsburgh, PA 15230.

3. Steel Strapping — Flat stock, 2 in. wide, fabricated from No. 18 GSG galv steel. Located horizontally and attached to both sides of the studs at the third points using one No. 6-20 by 1/2 in. self-drilling steel screw at each intersection.

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 with beveled, square, or tapered edges. The thickness, number of layers and method of attachment of the wallboard for the 2 Hr, 1 Hr, and 45 Min ratings are: **2 Hr Rating** — Three layers of 1/2 in. thick gypsum board applied vertically. Inner layer attached to the studs and tracks with 1 in. long, 0.142 in. diam, Type S-12 bugle head screws spaced 12 in. O.C. Middle layer attached to the inner layer of gypsum board with 1-1/2 in. long, 0.210 in. diam, Type G bugle head screws spaced 12 in. OC and to the end studs with 1-7/8 in. long, 0.118 in. diam, Type S-12 bugle head screws spaced 12 in. OC. Outer layer attached to studs and tracks with 1-7/8 in. long, 0.118 in. diam, Type S-12 bugle head screws spaced 12 in. OC and into the gypsum board with 1-1/2 in. long 0.210 in. diam Type G screws spaced 12 in. OC. Middle layer of wallboard edge joints staggered 2 ft from joints of inner and lower layer. **1 Hr Rating** — Two layers of 1/2 in. thick gypsum board applied horizontally or vertically. Inner layer attached to studs and tracks with 1 in. long, 0.142 in. diam Type S-12 bugle head screws spaced 12 in. OC beginning 6 in. from the edge. Outer layer attached to the studs and tracks with 1-5/8 in. long, 0.142 in. diam, Type S-12 bugle head screws spaced 12 in. OC beginning 1 in. from the edge. In addition, the outer layer to be attached to the inner layer at the joints with 1-1/2 in. long, 0.210 in. diam Type G bugle head screws spaced 24 in. OC located between studs. **3/4 Hr. Rating** — One layer of 5/8 in. thick gypsum board applied horizontally or vertically unless specified below. Attached to studs and tracks with 1 in. long, 0.142 in. diam Type S-12 bugle head screws spaced 12 in. OC beginning 6 in. from edges. When used in widths other than 48 in., gypsum board to be installed horizontally.

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

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

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

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

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

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

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

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

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

NATIONAL GYPSUM CO — Type SBWB

4B. Gypsum Board* — (As an alternate to Items 4 through 4A) — 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.

4C. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Item 4) - Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. 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.

4D. Wall and Partition Facings and Accessories* — (As an alternate to Items 4 through 4B) — 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.

5. Batts and Blankets* — 3-1/2 in. thick, 2 ft wide, glass fiber or mineral wool batts. Inserted between each stud to fill the wall cavity.

CERTAINTED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

OWENS CORNING

ROCKWOOL — Type AFB, min. density 1.69 pcf / 27.0 kg/m³

6. Gypsum Sheathing — One layer of nominal 1/2 in. thick exterior sheathing, applied vertically and secured to the studs and runner tracks with 1 in. long, 0.142 in. diam, Type S-12 bugle head screws spaced 12 in. OC along the studs and the runner tracks.

7. Exterior Facings —

7A. **Aluminum Siding** — Horizontal lap type 9 in. wide fabricated from 0.019 in. thick or 0.024 in. thick painted aluminum. Interior face of 0.019 in. thick siding lined with 3/8 in. thick unbonded insulation material. Attached to the studs with 1-7/8 in. long, 0.118 in. diam steel screws spaced 9 in. OC along the studs. A starter strip to be fastened to floor runner with 0.118 in. diam screws spaced 12 in. OC.

7B. **Steel Siding** — Same description as above (No. 17 GSG) gauge 0.017 in. thick.

7C. **Brick Veneer** — Any type 4 in. wide brick. Metal ties used as every fourth course spaced 24 in. OC horizontally. Fastened to steel studs through gypsum sheathing with one No. 6-20 steel screw per tie. One inch air space provided between veneer and gypsum sheathing.

7D. **Stucco** — Portland cement type — 3/4 in. min thickness. Metal lath or mesh base attached to studs with No. 6-20 steel screws. "T-Nails," or staples approved by local building codes. Spaced 6 in. OC max and driven through gypsum sheathing.

7E. **Fiber-Cement Siding** — (Not Shown) — Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

7F. **Building Units*** — (Not Shown) - 3 in. thick 18 x 24 in. cellular glass blocks, applied to the gypsum sheathing (Item 6) 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

8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints.

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.

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Last Updated on 2020-10-19

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