BXUV.U475 - 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.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

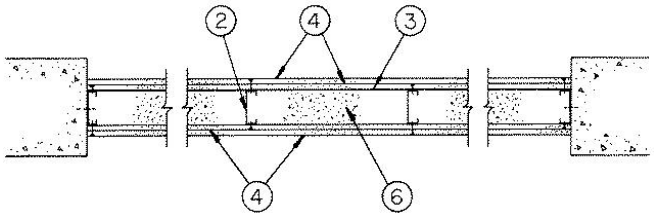
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. **U475**

March 2, 2022

Nonbearing Wall Rating — 1, 2, 3 or 4 HR.
(See Items 4 and 6)
*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** Channel shaped 1/2 in. deep by min 2-1/2 in. wide, No. 25 gauge painted or galv steel. Min. No. 18 MSG for the 4 hour rating. Secured with 3/4 in. long concrete fasteners spaced max 18 in. OC.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2A, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2B, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1C. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

1D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2D, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
TELLING INDUSTRIES L L C — TRUE-TRACK™

1E. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2F, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
RESCUE METAL FRAMING, L L C — AlphaTRAK

1F. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2G, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.
CRACO MFG INC — SmartTrack20™

2. **Steel Studs —** Channel shaped, min 2-1/2 in. wide with 1-1/4 in. legs, 1/4 in. folded back return flange in legs, spaced not more than 16 in. OC. Stud length 3/8 in. less than assembly height. Minimum gauge based on hourly rating. See below.
For 1, 2 and 3 h Rating — No. 25 MSG galv steel, min.

For 4 h Rating — No. 18 MSG galv steel, min.

2A. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1A, proprietary channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1B, channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2C. **Framing Members* — Steel Studs —** Not shown - In lieu of Item 2 — For use with Item 1C, proprietary channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2D. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1DC, channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
TELLING INDUSTRIES L L C — TRUE-STUD™

2E. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1A (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 16 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. **For 1, 2 and 3h Ratings.**
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1E, channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
RESCUE METAL FRAMING, L L C — AlphaSTUD

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1F, proprietary channel shaped steel studs, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Spaced max 16 in. OC. **For 4 h Rating** — No. 18 MSG galv steel, min.
CRACO MFG INC — SmartStud20™

3. **Metal Lath —** Diamond mesh, expanded steel 3.4 lb per sq yd, 27 by 96 in. sheets tied to iron bands and at laps 6 in. OC with No. 18 SWG wire.

4. **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 gypsum board with beveled, square or tapered edges.
For 1, 2 and 3 h Ratings — Two layers of gypsum board on each side. The inner layer to be applied vertically with joints centered over studs. Fastened to studs with 1 in. long, Type S, self-tapping, self-drilling, gypsum board screws spaced 8 in. OC at the joints located 3/8 in. from the edges and 12 in. OC in the field. The outer layer also applied vertically to be fastened to the studs (through the inner layer) using 1-5/8 in. long, Type S, self-drilling, self-tapping, gypsum board screws spaced 8 in. OC at the joints located 3/8 in. from the edges and 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners. Joints to be staggered from the inner layer.

For 4 h Rating — (Not Shown) — To be applied to Min 18 MSG (0.0428 bare metal thickness) steel framing only. Three layers of gypsum board on each side. Two inner layers to be applied in the same manner as the 3 h rating. The outer layer may be applied vertically or horizontally, unless specified below, and fastened to each stud through the two previous layers with 2-1/4 in. long, Type S, self-drilling, self-tapping steel screws spaced 3/8 in. from the edges, 8 in. OC in the field. Joints in each gypsum board layer to be staggered from the joints in the adjacent layer and on opposite sides of studs.

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

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CERTAINTEED 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

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.

4B. **Gypsum Board* —** (As an alternate to Items 4 through 4A) — 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates as described in Item 4.
NATIONAL GYPSUM CO — Type SBWB

4C. **Gypsum Board* —** (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 ES.

4D. **Gypsum Board* —** (As an alternate to Items 4 through 4C) — 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates as described in Item 4.
CERTAINTEED GYPSUM INC — Type SilentFX

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

5. **Portland Cement Plaster —** (Not Shown) — May be used in lieu of the layers of gypsum board (Item 4) on metal lath side, 3/4 in. thick applied in scratch coat consisting of 100 lb cement to 50 lb lime to 5-1/2 per cu ft of sand, coat consisting of 100 lb cement to 50 lb lime to 6 per cu ft of sand. To be applied to Min 18 MSG (0.0428 bare metal thickness) steel framing only.

6. **Cementitious Mixture* —** See table below for appropriate thickness. Prepared by mixing with water according to instructions on each bag of mixture and spray or trowel-applied in one or more coats to lath and stud surfaces. Min avg and individual density 15/14 pcf. For method of density determination, see Design Information Section, preceding these Designs.

Assembly Rating	Stud Size In.	Min Thkns of Matl Applied to Metal Lath
1	2-1/2	2
2	3-1/4	2-3/4
3	3-5/8	3-1/4
4	4	4

GCP KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1.

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY, MK-6s, Monokote Acoustic 1, RG.

6A. **Alternate Spray-Applied Fire Resistive Materials* —** See table below for appropriate thickness. Prepared by mixing with water according to instructions on each bag of mixture and spray or trowel-applied in one or more coats to lath and stud surfaces. Min avg and individual density 22/19 pcf. For method of density determination, see Design Information Section, preceding these Designs.

Assembly Rating	Stud Size In.	Min Thka of Matl Applied to Metal Lath
1	2-1/2	2
2	3-1/4	2-3/4
3	3-5/8	3-1/4
4	4	4

GCP KOREA INC — Types Monokote Acoustic 5, Z-106, Z-106/G, Z-106/HY.

GCP APPLIED TECHNOLOGIES INC — Types Monokote Acoustic 5, Z-106, Z-106/G, Z-106/HY.

6B. **Vermiculite Concrete —** In lieu of Spray Applied Fire Resistive Material - 4 cu ft **vermiculite aggregate*** to 94 lb portland cement. Spray applied.

Assembly Rating	Stud Size In.	Min Thka of Matl Applied to Metal Lath
1	2-1/2	2
2	3-1/4	2-3/4
3	3-5/8	3-1/4
4	4	4

GCP APPLIED TECHNOLOGIES INC

7. **Iron Bands —** (Not Shown) — Hot rolled iron bands, 1/8 in. thick by 3/8 in. wide, with ribs 1 in. high by 1 in. wide spaced 16 in. OC. Welded to metal stud shows and runners at each rib.

8. **Metal Lath —** (Not Shown) — In lieu of Items 3 and 7, 3/8 in. rib, 3.4 lb per sq yd expanded metal lath. Fastened to studs with ribbed side placed against studs, with No. 18 SWG wire spaced 6 in. OC. Fastened to runners with 1/2 in. long Type S steel screws spaced 12 in. OC. Laps 6 in. min and tied with No. 18 AWG wire spaced 6 in. OC min.

9. **Joint Tape and Compound —** (Used with Item 4; Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads. Paper or fiberglass mesh, 2 in. wide, embedded in first layer of compound over all joints.

9A. **Finishing System —** (Not Shown) — **Spray-Applied Fire Resistive Materials*** (Item 6) may be spray or trowel applied to the joints and screw heads.

10. **Barrier Mesh —** (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 4) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

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

Last Updated on 2022-03-02