



## Design No. U450

### BXUV.U450

### 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, 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.

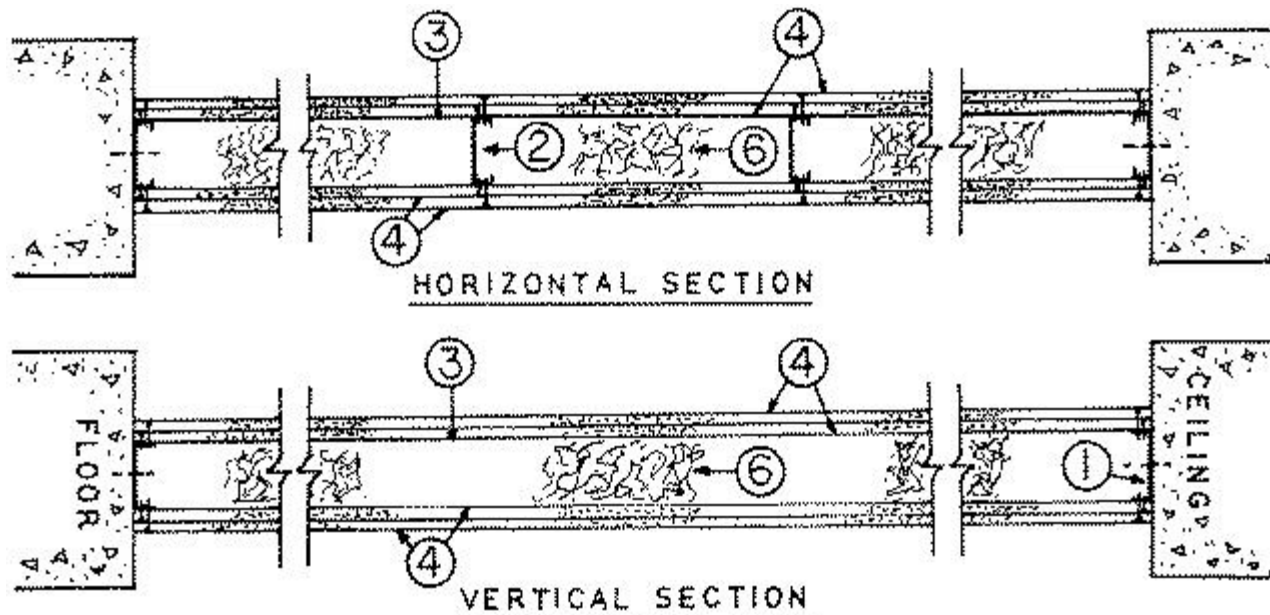
#### Fire-resistance Ratings - ANSI/UL 263

[See General Information for Fire-resistance Ratings - ANSI/UL 263](#)

## Design No. U450

June 06, 2013

Nonbearing Wall Rating — 1, 3 or 4 HR. (See Items 1, 2, and 4)



1. **Floor and Ceiling Runners** — Channel shaped 1/2 in. deep by min 3-5/8 in. wide, No. 25 gauge painted or galvanized steel. Min. No. 18 MSG for the 4 hour rating. Secured with 3/4 in. long concrete fasteners spaced 18 in. OC. For the 1 hour rating, width may be reduced to 2-1/2 in. to accommodate the 2-1/2 in. wide studs.

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 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — Viper20™ Track

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

**PHILLIPS MFG CO L L C** — 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 BUILDING SUPPLIES** — ProTRAK

**RAM SALES L L C** — Ram ProTRAK

**SOUTHEASTERN STUD & COMPONENTS INC** — ProTRAK

**STEEL STRUCTURAL SYSTEMS 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 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 18 in. OC max.

**TELLING INDUSTRIES L L C** — 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™

**2. Steel Studs** — Channel shaped, min 3-5/8 in. wide with 1-1/4 in. legs, with 1/4 in. folded back return flange legs, galvanized steel, spaced not more than 16 in. OC. Stud length 3/8 in. less than assembly height. Min. No. 25 MSG for the 1 and 3 hour rating. Min. No. 18 MSG for the 4 hour rating. For the 1 hour rating, width may be reduced to 2-1/2 in.

**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 0.020 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Min. No. 18 MSG for the 4 hour rating.

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**PHILLIPS MFG CO L L C** — 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 spaced max 16 in. OC. Studs cut 3/8 in. less in length than assembly height. Min. No. 18 MSG for the 4 hour rating.

**CLARKDIETRICH BUILDING SYSTEMS** — CD ProSTUD

**DMFCWBS L L C** — ProSTUD

**MBA BUILDING SUPPLIES** — ProSTUD

**RAM SALES L L C** — Ram ProSTUD

**SOUTHEASTERN STUD & COMPONENTS INC** — ProSTUD

**STEEL STRUCTURAL SYSTEMS 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 0.020 in. thick galv steel. Studs cut 3/8 in. less in length than assembly height. Min. No. 18 MSG for the 4 hour rating.

**TELLING INDUSTRIES L L C** — Viper20™

**2D. Framing Members\*— Steel Studs** — Not shown - In lieu of Item 2 — For use with Item 1D, 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 spaced max 16 in. OC. Studs cut 3/8 in. less in length than assembly height. Min. No. 18 MSG for the 4 hour rating.

**TELLING INDUSTRIES L L C** — TRUE-STUD™

**3. Metal Mesh** — (Used with Item 5) — Diamond mesh, expanded steel, 3.4 lbs/sq yd, 27 by 96 in. sheets tied to iron bands (Item 7) and at laps with No. 18 SWG wire spaced 6 in. OC. As an alternate to the diamond mesh and iron bands, 3/8 in. rib, 3.4 lbs/sq yd expanded metal lath. Fastened to studs (ribbed side against studs) with No. 18 SWG wire spaced 6 in. OC. Fastened to runners with 1/2 in. long self-drilling, self-tapping steel screws spaced 6 in. OC. Laps 6 in. min and tied with No. 18 AWG wire spaced 6 in. OC min. The metal lath may be provided with a paper backing. When provided with the paper backing, the paper backed side of the lath shall face the metal studs.

**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 Hr Rating** — One layer of gypsum board on each side applied vertically with joints centered over studs. Fastened to studs with 1 in. long, Type S, self-tapping, self-drilling steel screws spaced 8 in. OC at the joints located 3/8 in. from the edges and 12 in. OC in the field. Joints to be staggered from the inner layer.

**For 3 Hr Rating** — 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, wallboard 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, steel 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 Hr 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 hr 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.

**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

**CERTAINTED GYPSUM CANADA INC** ([View Classification](#)) — CKNX.R15187

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

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

**TEMPLE-INLAND** ([View Classification](#)) — CKNX.R6937

**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

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.

**CERTAINTED GYPSUM INC** — Type SilentFX

**NATIONAL GYPSUM CO** — SoundBreak XP Type X Gypsum Board

**TEMPLE-INLAND** — Type X ComfortGuard Sound Deadening Gypsum Board.

4B. **Wall and Partition Facings and Accessories\*** — (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.

**SERIOUS ENERGY INC** — Types QuietRock ES, QuietRock 527.

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 cu ft of sand and brown coat consisting of 100 lb cement to 50 lb lime to 6 cu ft of sand. To be applied to Min. 18 MSG (0.0428 bare metal thickness) steel framing only.

6. **Spray-Applied Fire Resistive Materials\*** — Sprayed in stud cavities to completely fill interior of walls. Min avg and min indiv densities of 13 and 11 pcf, respectively for Types D-C/F and II. Min avg and min indiv densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination, refer to Design Information Section.

**ISOLATEK INTERNATIONAL** — Types D-C/F, II or HP. Type EBS or Type X adhesive/sealer is optional.

7. **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 tape, 2 in. wide, embedded in first layer of compound over all joints.

8. **Building Paper** — (Not Shown-Optional) — May be used on the exterior face of the wall assembly, between the metal studs and the metal mesh or lath, as a backing for the application of the plaster (Item 5). The building paper may be a single-ply asphalt saturated sheathing, woven polyolefin sheathing or similar vapor barrier materials.

\*Bearing the UL Classification Mark

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