



Design No. V438

BXUV.V438

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.

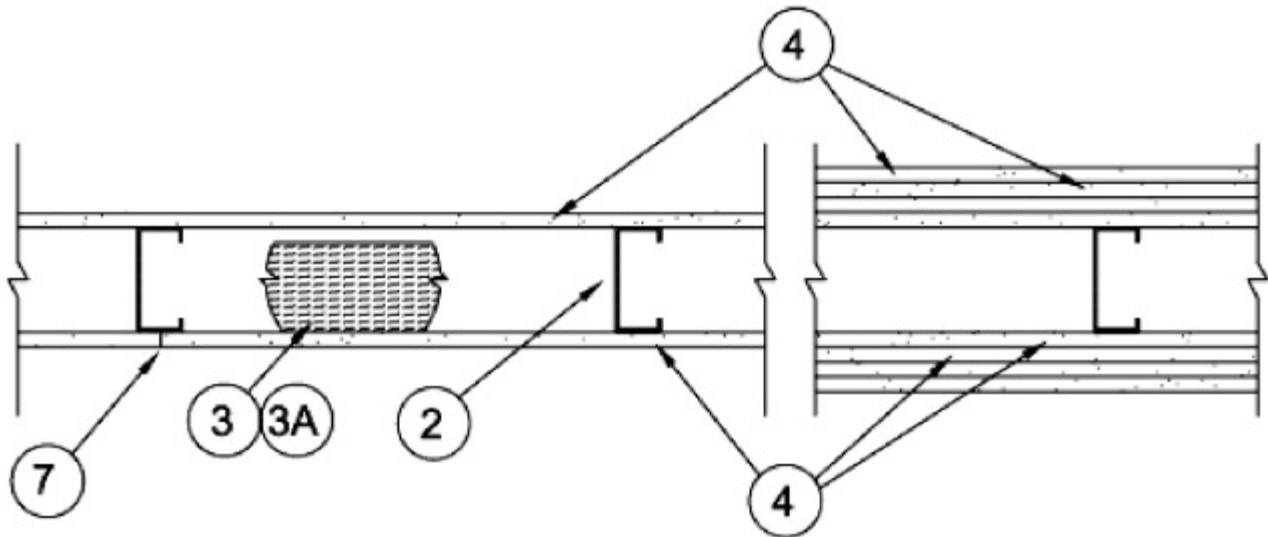
Fire-resistance Ratings - ANSI/UL 263

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

Design No. V438

June 06, 2013

Nonbearing Wall Ratings - 1, 2, 3 or 4 Hr (See Items 3 & 4)



1. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* - Floor and Ceiling Runner** — Not shown — In lieu of Item 1 — For use with Item 2A, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/4 in. long legs fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

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

PHILLIPS MFG CO L L C — Viper20™ Track

1B. Framing Members* - Floor and Ceiling Runner — Not shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

SUPER STUD BUILDING PRODUCTS — The Edge

1C. Floor and Ceiling Runners — (Not shown) —For use with Item 2C, Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. Framing Members*— Floor and Ceiling Runners — (Not Shown) — As an alternate to Item 1. For use with Items 4C or 4D only. For use with Item 2D, channel shaped, min width to accommodate stud size, with min 1-1/4 in. long legs, fabricated from min. 0.0150 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 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

1E. Floor and Ceiling Runners — (Not shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100.

1F. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2E, proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/4 in. long legs fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

1G. Framing Members*— Floor and Ceiling Runners — (Not Shown) — As an alternate to Item 1. For use with Items 4C or 4D only. For use with Item 2F, channel shaped, min width to accommodate stud size, with min 1-1/4 in. long legs, fabricated from min. 0.0150 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

2. Steel Studs — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as

indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. Framing Members* - Steel Studs — Not shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 4, 1-1/4 in. deep fabricated from min 0.020 in. thick galv steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

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

PHILLIPS MFG CO L L C — Viper20™

2B. Framing Members* - Steel Studs — Not shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 4, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

SUPER STUD BUILDING PRODUCTS — The Edge

2C. Steel Studs — (As an alternate to Item 2, For use with Items 1C, 4A, 4F and 4G) Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min width, min 1-1/2 in. flanges and 1/4 in. return, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. Framing Members* — Steel Studs — As an alternate to Item 2. For use with Items 4C or 4D only, channel shaped, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

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

2E. Framing Members* - Metal Studs — Not shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 4, 1-1/4 in. deep fabricated from min 0.020 in. thick galv steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

TELLING INDUSTRIES L L C — Viper20™

2F. Framing Members* — Steel Studs — As an alternate to Item. For use with Items 4C or 4D only, channel shaped, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

3. Batts and Blankets* — (Required as indicated under Item 4) — Mineral wool batts, friction fitted between

studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

3A. **Batts and Blankets*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

4. **Gypsum Board*** — Gypsum panels with beveled, square or tapered edges. **For single layer systems** gypsum panels applied vertically or horizontally with joints centered over studs. For all products except FSW-3, horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. When applied horizontally, gypsum panels fastened to framing with 1 in. long Type S steel screws 1-1/2 in. from board edges, 3 in. from board edge and every 8 in. OC in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall. **For single layer systems** (constructed with 1/2 in. thick board) gypsum panels applied vertically or horizontally with vertical joints centered over studs. **For two layer systems** (constructed with 5/8 in. thick board) gypsum panels applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs and in adjacent layers. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints in adjacent layers staggered a min of 12 in. For two layer systems (constructed with 1/2 in. thick board) inner layer of gypsum panels applied vertically and outer layer of gypsum panels may be applied vertically or horizontally. Vertical joints in adjacent layers staggered one stud cavity. For three and four layer systems inner layers to be applied vertically with joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers staggered one stud cavity. Outer layer may be applied vertically or horizontally. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on each Side of Wall

Rating, Hr	Min Stud Depth, Item 2, 2A, and 2B, In.	No. of Layers & Thks of Panel	Min Thks of Insulation (Item 3)
1	3-5/8	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	2 in. thick
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	2-1/2	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

NATIONAL GYPSUM CO — 1/2 in. thick Type FSW-G, FSK-G, FSW-C, FSMR-C or FSK-C; 5/8 in. thick Type FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSMR-C or FSK-C.

4A. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 4 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4B. **Gypsum Board*** — (As an alternate to Item 4) - Installed vertically only - as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4C. **Gypsum Board*** — As an alternate to Item 4. For use with Item 1D and 2D and 1 Hour Rating only, gypsum panels with beveled, square or tapered edges. For a 1 hour rating, one layer of gypsum panels applied vertically with joints centered over studs. Stud depth shall be a minimum 3-5/8 in.

NATIONAL GYPSUM CO — 5/8 in. thick Type FSW

4D. **Gypsum Board*** — As an alternate to Item 4. For use with Item 1D and 2D only, gypsum panels with beveled, square or tapered edges. **For two layer systems** (constructed with 5/8 in. thick board) gypsum panels applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs and in adjacent layers. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints in adjacent layers staggered a min of 12 in. For two layer systems (constructed with 1/2 in. thick board) inner layer of gypsum panels applied vertically and outer layer of gypsum panels may be applied vertically or horizontally. Vertical joints in adjacent layers staggered one stud cavity. **For three and four layer systems** inner layers to be applied vertically with joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers staggered one stud cavity. Outer layer may be applied vertically or horizontally. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2D	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 3)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	2-1/2	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

NATIONAL GYPSUM CO — 1/2 in. thick Type FSW-G, FSK-G, FSW-C, or FSK-C; 5/8 in. thick Type FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, or FSK-C.

4E. **Gypsum Board*** — (As an alternate to Item 4) - Installed vertically only - as described in Item 4.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 4 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2C). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4G. **Gypsum Board*** — — (As an alternate to Item 4) For Direct Application to studs Item 2C only- For use as the base layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grades "A, B, C or D". Fasteners for face layer gypsum panels (Items 4) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 5.

MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

5. **Fasteners** — (Not shown)-Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels, spaced 8 in. OC along edges of board and 12 in. OC in the field of board. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.

7. **Furring Channels** — (Optional, not shown, for single or double layer system) - Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. May not be used with Item 4A.

8. **Siding, Brick or Stucco** — (Optional, not shown) - Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

9. **Cementitious Backer Units*** — (Optional Item Not Shown - For Use On Face Of Rated Systems With All Standard Items Required) - 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. for steel framing members 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

10. **Lead Batten Strips** — (Not Shown, For Use With Item 4A) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

11. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4A) - Used in lieu of or in addition to the lead batten strips (Item 10) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

*Bearing the UL Classification Mark

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