



## **BXUV.U436 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 Listed or Classified 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 as Classified, Listed, or Recognized.
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### **Fire Resistance Ratings - ANSI/UL 263**

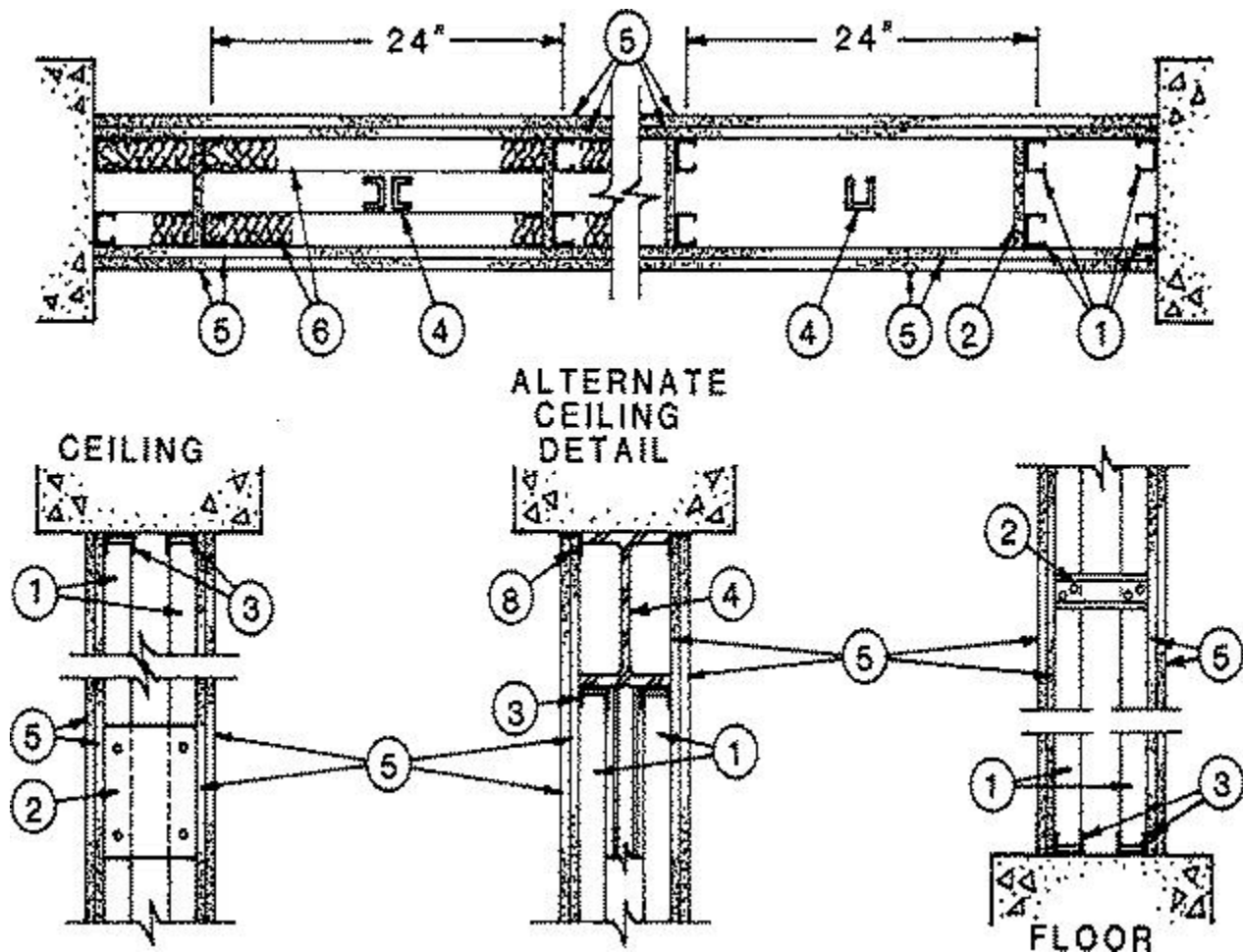
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**Design No. U436**

March 23, 2009

**Nonbearing Wall Rating — 1, 2 or 3 HR.**

**(See Items 5 and 5A)**



1. **Studs** — Channel-shaped, 1-5/8 in. wide by 1 in. deep, with 1/4 in. folded back return flange legs. Fabricated from No. 25 MSG galv steel. Studs to be cut 1/2 in. less than assembly height.

1A. **Framing Members - Metal Studs\*** — Not shown - In lieu of Item 1 — For use with Item 3A, proprietary channel shaped steel studs, 1-1/4 in. deep by 1-5/8 in. wide fabricated from min 0.0200 in. thick galv steel. Studs 1/2 in. less in lengths than assembly heights.

#### MARINO\WARE A DIV OF WARE INDUSTRIES

INC — Viper20S™, Viper20D™

2. **Bracing** — Maximum spacing 60 in. OC. Either Type 1 or Type 2 bracing may be used. **Type 1** — Cut from steel runners, 5-1/4 in. long. Fastened to the studs with two No. 8 by 1/2 in. self-drilling, self-tapping steel screws in each stud. **Type 2** — Cut from the gypsum wallboard 5-1/4 in. long and 6 in. wide. Fastened to the studs with three Type S wallboard screws at each end.

3. **Floor And Ceiling Runners** — Channel-shaped runners, 1-5/8 in. wide by 1-1/4 in. deep, fabricated from No. 25 MSG galv steel. Attached to floor and ceiling with fasteners spaced 24 in OC max.

3A. **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 1-5/8 in. wide fabricated from min 0.0200 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

#### MARINO\WARE A DIV OF WARE INDUSTRIES

INC — Viper20S™ Track, Viper20D™ Track

4. **Steel Truss Members** — Fabricated with structural steel members designed in accordance with the Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings published by the American Institute of Steel Construction. Truss members to be located between the steel studs and truss members may not contact the gypsum wallboard. All connections shall be riveted, welded or bolted in accordance with the AISC specifications. The min weight of structural member shall be 3.75 plf.

5. **Gypsum, Wallboard\*** — **For 3 Hr Rating** — Two layers of 3/4 in. thick, 4 ft wide wallboard with square or tapered edges. Inner layers to be applied vertically with joints centered over studs. Outer layers may be applied vertically or horizontally. First layer fastened to studs with 1-1/4 in. long, Type S self-tapping steel screws. Second layer fastened to studs through first layer with 2-1/4 in. long, Type S, self-tapping steel screws. Second layer also

secured to the first layer with 1-1/2 in. long, Type G, self-tapping steel screws located midway between each stud along the horizontal joint of each board and spaced 24 in. OC. Joints in each layer of wallboard to be staggered 24 in. from the joints in the layer below and on opposite side of studs. The Type S, self-tapping steel screws to be spaced 24 in. OC for the inner layers of wallboard, 12 in. OC for the outer layer and 3/8 in. from the edge of the board.

**CANADIAN GYPSUM COMPANY** — Type IP-X3 or ULTRACODE

**UNITED STATES GYPSUM CO** — Type IP-X3 or ULTRACODE

**USG MEXICO S A DE C V** — Type IP-X3 or ULTRACODE

For 3 Hr Rating — Three layers of 1/2 in. thick, 4 ft wide wallboard with square or tapered edges. Inner layers to be applied vertically with joints centered over studs. Outer layer may be applied vertically or horizontally. First layer fastened to studs with 1 in. long, Type S, self-tapping steel screws. Second layer fastened to studs through the first layer with 1-5/8 in. long, Type S, self-tapping steel screws. Third layer fastened to studs through first and second layers with 2-1/4 in. long, Type S, self-tapping steel screws. Third layer also secured to the first and second layers with 1-1/2 in. long, Type G, self-tapping steel screws located midway between each stud along the horizontal joint of each board and spaced 24 in. OC. Joints in each layer of wallboard to be staggered 24 in. from the joints in the layer below and on opposite side of studs. The Type S, self-tapping steel screws to be spaced 24 in. OC for the two inner layers of wallboard, 12 in. OC for the outer layer and 3/8 in. from the edge of the board.

**AMERICAN GYPSUM CO** — Types AG-C

**CERTAINTED GYPSUM INC** — Type FRPC, ProRoc Type C.

**CERTAINTED GYPSUM CANADA INC** — ProRoc Type C.

**CANADIAN GYPSUM COMPANY** — Types C, IP-X2, IPC-AR.

**GEORGIA-PACIFIC GYPSUM L L C** — Type 5.

**LAFARGE NORTH AMERICA INC** — Type LGFC-C, LGFC-C/A.

**NATIONAL GYPSUM CO** — Types FSK-C, FSW-C, FSMR-C.

**PABCO BUILDING PRODUCTS L L C, DBA**

**PABCO GYPSUM** — Type PG-C.

**PANEL REY S A** — Type PRC

**TEMPLE-INLAND FOREST PRODUCTS CORP** — Type TG-C.

**UNITED STATES GYPSUM CO** — Types C, IP-X2, IPC-AR.

**USG MEXICO S A DE C V** — Types C, IP-X2, IPC-AR.

For 3 Hr Rating — Three layers of 5/8 in. thick, 4 ft wide wallboard, installed in the same manner as the three layers of 1/2 in. wallboard as described above, except the third layer Type G screws shall be 1-7/8 in. long.

**NATIONAL GYPSUM CO** — Type FSMR-C.

For 2 Hr Rating — Two layers of 1/2 in. thick, 4 ft wide wallboard with square or tapered edges. The inner layers to be applied in the same manner as the 3 hr rating. The outer layer may be applied vertically or horizontally and in the

same manner as the outer layer for the 3 hr rating. Board joints to be staggered 24 in. from the joints in the adjacent layer and on opposite side of studs.

**AMERICAN GYPSUM CO** — Type AG-C

**CERTAINTED GYPSUM INC** — Type FRPC, ProRoc Type C.

**CERTAINTED GYPSUM CANADA INC** — ProRoc Type C.

**CANADIAN GYPSUM COMPANY** — Types C, IP-X2, IPC-AR.

**GEORGIA-PACIFIC GYPSUM L L C** — Type 5.

**LAFARGE NORTH AMERICA INC** — Types LGFC-C, LGFC-C/A.

**NATIONAL GYPSUM CO** — Types FSK-C, FSW-C

**PANEL REY S A** — Type PRC

**TEMPLE-INLAND FOREST PRODUCTS CORP** — Type TG-C

**UNITED STATES GYPSUM CO** — Types C, IP-X2, IPC-AR.

**USG MEXICO S A DE C V** — Types C, IP-X2, IPC-AR.

As an alternate for the 2 hr rating, two layers of any Classified 5/8 in. thick wallboard with beveled, square or tapered edges. The inner layer to be applied in the same manner as for the 1 hr rating.

The outer layer to be fastened to the studs (through the inner layer) using 1-5/8 in. long, Type S, self-drilling, self-tapping, wallboard 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 24 in. from the inner layer. See Gypsum Board (CKNX) Category for names of manufacturers.

For 1 Hr rating — One layer of any Classified 5/8 in. thick wallboard with beveled, square or tapered edges. Applied vertically with joint 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 at 12 in. OC in the field. Fasteners to be spaced 8 in. OC at the runners. See Gypsum Board (CKNX) Category for names of manufacturers. No horizontal joints to be used.

**6. Batts And Blankets\* — (Optional)** — Any glass fiber or mineral wool batt or blanket material bearing the UL Classification Marking as to Fire Resistance. The glass fiber or mineral wool batt or blanket material may not be placed on only one side of the structural steel members.

See Batts and Blankets (BZJZ) Category for names of Classified Companies.

**6A. Fiber, Sprayed\*** — As an alternate to Batts and Blankets (Item 6) — 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 3.0 lb/ft<sup>3</sup>. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft<sup>3</sup>.

**U S GREENFIBER L L C** — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

**6B. Fiber, Sprayed\*** — As an alternate to Batts and Blankets (Item 68) and Item 6A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

**NU-WOOL CO INC** — Cellulose Insulation

**7. Joint Tape And Compound** — 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. Alternate Ceiling Detail — Steel Angle** — Angle shaped runners, fabricated from No. 25 MSG galv steel. Attached to ceiling with fasteners spaced 24 in. OC. Each layer of wallboard to be fastened to the steel angle with Type S, self-tapping steel screws spaced 24 in. OC.

\*Bearing the UL Classification Mark

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