



Design No. G542
BXUV.G542
Fire Resistance Ratings - ANSI/UL 263

[Page Bottom](#)

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.
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BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

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

[See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada](#)

Design No. G542

August 27, 2015

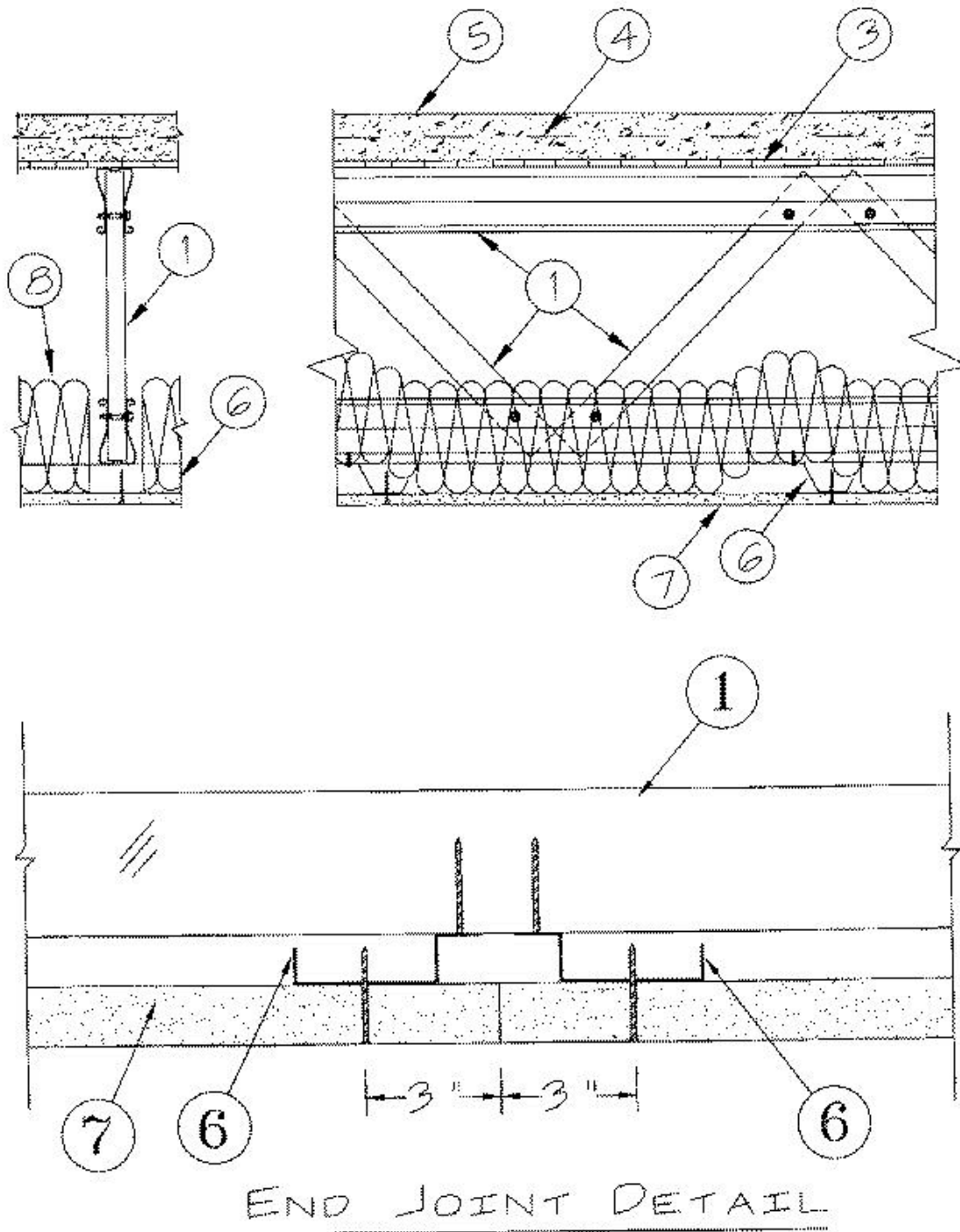
Restrained Assembly Rating - 1 and 2 Hr. (See Items 7 and 8)

Unrestrained Assembly Rating - 1 and 2 Hr. (See Items 7 and 8)

Unrestrained Beam Rating - 1 and 2 Hr. (See Items 7 and 8)

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.



1. **Structural Steel Members*** — Pre-fabricated light gauge steel truss system consisting of cold-formed, galv steel chord and web sections. Trusses fabricated in various sizes, depths and from various steel thickness. Trusses spaced a max of 48 in. OC.

TRUSSTEEL, DIV OF ITW BUILDING COMPONENTS INC — TrusSteel

2. **Bridging** — (Not Shown)—Location of lateral bracing for truss chord and web sections to be specified on truss engineering.

3. **Metal Lath** — 3/8 in. rib, 3.4 lb/sq yd expanded steel lath tied to each truss at every other rib and midway between trusses at side laps with 18 SWG galv steel wire. As an alternate, the form material for the concrete may be corrugated steel deck, min 9/16 in. deep, 28 MSG galv steel, mechanically fastened to trusses 15 in. OC. The concrete topping thickness shall be measured to the top plane of the steel deck.

4. **Welded Wire Fabric** — 6 by 6 in., 10/10 SWG.

5. **Normal or Lightweight Concrete** — Carbonate or siliceous aggregate, 150 ± 3 pcf unit weight, 3000 psi compressive strength. Lightweight concrete, expanded shale, clay or slate aggregate by rotary kiln method, 117 ± 3 pcf unit weight, 3000 psi compressive strength. Min. thickness is 2 in.

6. **Furring Channels** — Resilient channels formed of 25 MSG galv steel, installed perpendicular to the steel trusses, (Item 1) when trusses are spaced a max 24 in. OC. Resilient channels spaced a max of 16 in. OC when no insulation (Item 8 or 8A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Item 8 or 8A) is fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane. Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath steel trusses. Channels secured to each truss with Type S12 by 1/2 in. long screws.

6A. **Furring Channels** — (Not Shown) — As an alternate to Item 6 — Hat channels min 20 MSG galv steel, min 2-5/8 in. wide by min 7/8 in. deep, installed perpendicular to the trusses (Item 1) spaced a max of 16 in. OC. Two courses of channel positioned 6 in. OC, 3 in. from each end of wallboard. Channel splices overlapped 6 in. beneath steel trusses. Channels secured to each truss with No. 18 SWG steel wire double strand saddle ties. Channels tied together with double strand of No. 18 SWG steel wire at each end overlap.

6B. **Furring Channels** — As an alternate to Item 6 or 6A, resilient channels, double legged formed of 25 MSG galv steel, 2-7/8 in. wide by 1/2 in. deep, installed perpendicular to the trusses (Item 1) spaced max 16 in. OC when no insulation (Item 8 or 8A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Item 8 or 8A) is fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane. Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channel splices overlapped 4 in. beneath steel trusses. Channels secured to each truss with Type S12 by 1/2 in. long screws or with No. 18 SWG galv steel wire double strand saddle ties. Channels tied together with double strand of No. 18 SWG galv steel wire at each end of overlap.

7. **Gypsum Board*** — For the 1 Hr. Ratings - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 8 or 8A) is fitted in the concealed space, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 8 or 8A) is fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane. For the 2 Hr. Ratings - Two layers of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Base layer attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field. Face layer attached to the resilient channels using 1-5/8 in. long Type S bugle-head screws spaced 12 in. OC along butted end-joints and 12 in. OC in the field. Screws staggered from base layer screws. Face layer side and end joints offset a minimum 16 in. from base layer side and end joints.

CGC INC — Types C, IP-X2, IPC-AR.

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

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

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

8. **Batts and Blankets*** — Optional for the 1 Hr Ratings - To be omitted for the 2 Hr Ratings . Any thickness mineral wool or glass fiber insulation bearing the UL Classification Marking for Surface Burning Characteristics, having a flame spread value of 25 or less and a smoke value of 50 or less. Insulation fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane.

8A. **Loose Fill Material*** — As an alternate to Item 8 — Any thickness of loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a flame spread value of 25 or less and a smoke spread value of 50 or less. Loose fill material fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane.

9. **Finishing System** — (Not Shown)—Vinyl, 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. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum wallboard.

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[Page Top](#)

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