

## 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.

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. **G503**

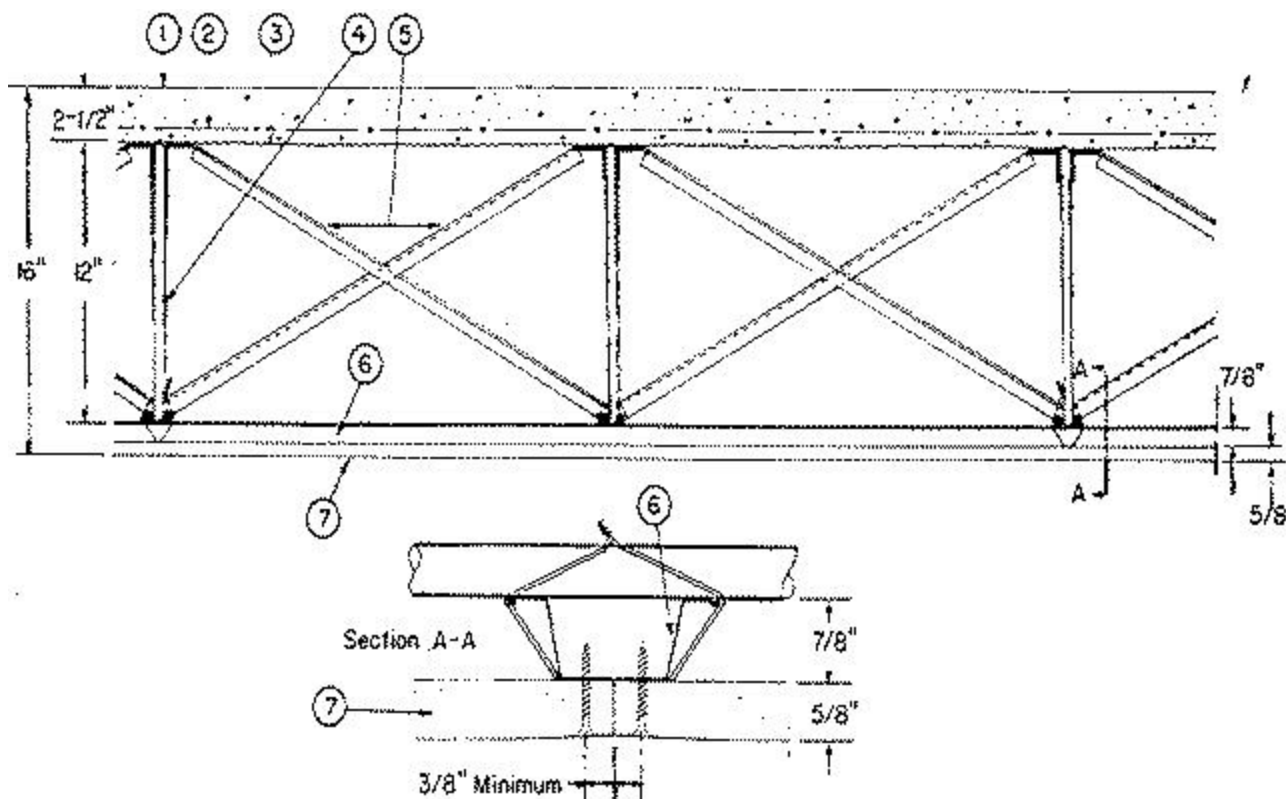
March 3rd, 2025

**Restrained Assembly Rating — 2 Hr.**

**Unrestrained Assembly Rating — 2 Hr.**

**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. **Normal-Weight Concrete** — Carbonate or siliceous aggregate, 145 + or - 3 pcf unit weight, 3000 psi compressive strength.
  2. **Welded Wire Fabric** — 6X6, 10/10 SWG.
  3. **Metal Lath** — 3/8 in. rib, 3.4 lb/sq yd expanded metal lath, wire-tied to each joist at every other rib, and midway between joists at side lap with 18 SWG galv steel wire. As an alternate, the form material for the concrete may be corrugated steel deck 9/16 in. deep of 28 MSG (minimum) galv steel welded to supports 15 in. O.C. with washers. The concrete thickness shall be measured to the top plane of the steel deck.
  4. **Steel Joists** — Type 12J4 minimum size, spaced 24 in. O.C. and welded to end supports.
  5. **Bridging** — 1-1/4 by 1-1/4 by 3/16-in. angles; welded to top and bottom chords of each joist.
  6. **Furring Channel** — No. 25 MSG galv steel, 2-5/8 in. or 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 12 in. O.C., secured to joists with a double strand of 18 SWG galv steel wire, spaced 48 in. O.C. Channels overlapped at splice 5-1/2 in. and secured with two double strand ties. Minimum end clearance of channels to walls 3/8 in. As an alternate, furring channels may be secured to 1-1/2 in. cold-rolled channels at every intersection with double strand of 18 SWG galv wire. Cold-rolled channels spaced 48 in. O.C. and suspended perpendicular from lower chords of joists with 8 SWG galv wire spaced 48 in. O.C. along channels.
  - 6A. **Steel Framing Members\*** — (optional, not shown) — alternate method to attach furring channels (Item 6) to joists (Item 4). Clips spaced 48 in. OC., and secured to alternating joists with cup washer installation kit provided by manufacturer. On underside of bottom chord, 1-1/2 in. dia x 3/8 in. deep No. 16 galv steel cup washer is placed to surround the rubber insert. Clip attached to the bottom chord with a 1/4 in. dia. zinc plated bolt inserted through the center grommet and between the chord members; depth of bolt determined as 1-1/2 in. plus the depth of the bottom chord of the joist. Fastened on the top side of the bottom chord with a second cup washer placed open side up, and a 1/4 in. zinc plated "Nyloc" nut. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the wallboard butt joints, as described in Item 7.
- PAC INTERNATIONAL L L C** — Types RSIC-1, RSIC-1 (2.75).

**6B. Steel Framing Members\*** — (Optional, Not Shown) - Used as an alternate method to attach furring channels (item 6) to joists (item 4). Clips spaced at 48" OC and secured to the bottom of the joists with cup washer installation kit provided by manufacturer. On underside of bottom chord, 1-1/2 in. dia x 3/8 in. deep No. 16 galv steel cup washer is placed to surround the rubber insert of clip. Clip attached to the bottom chord with a 1/4 in. dia zinc plated bolt inserted through the center grommet and between the chord members; depth of bolt determined as 1-1/2 in. plus the depth of the bottom chord of the joist. Fastened on the top side of the bottom chord with a second cup washer placed open side up, and a 1/4 in. zinc plated "Nyloc" nut. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

**STUDCO BUILDING SYSTEMS** — RESILMOUNT Sound Isolation Clips - Type A237R

**6C. Steel Framing Members\*** — (optional, not shown) — alternate method to attach 2-23/32 in. wide by 7/8 in. deep furring channels (Item 6) to joists (Item 4). Clips spaced 48 in. OC., and secured to alternating joists with cup washer installation kit provided by manufacturer. On underside of bottom chord, 1-1/2 in. dia x 3/8 in. deep No. 16 galv steel cup washer is placed to surround the rubber insert. Clip attached to the bottom chord with a 1/4 in. dia. zinc plated bolt inserted through the center grommet and between the chord members; depth of bolt determined as 1-1/2 in. plus the depth of the bottom chord of the joist. Fastened on the top side of the bottom chord with a second cup washer placed open side up, and a 1/4 in. zinc plated "Nyloc" nut. Furring channels are friction fitted into clips. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the wallboard butt joints, as described in Item 7.

**CLARKDIETRICH BUILDING SYSTEMS** — Type ClarkDietrich Sound Clip

**7. Gypsum Board\*** — 5/8 in. thick. Sheets of wallboard attached with long dimension at right angles to furring channels and secured to channels with 1 in. long gypsum wallboard screws on 8-in. centers, except at edge as noted. Care should be taken to drive the screw no farther than flush with the face of the wallboard.

When **Steel Framing Members** (Item 6A, 6C) are used, wallboard butt joints shall be staggered min. 2 ft. within the assembly, and occur between the main furring channels. Edge joints may occur beneath the joists. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the joist with one clip at each end of the channel. Gypsum board attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Wallboard joints covered with fiber tape and joint compound.

When **Steel Framing Members** (Item 6B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two supporting furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional furring channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

**AMERICAN GYPSUM CO** — Type AGX-1, LightRoc

**CABOT MANUFACTURING ULC** — 5/8 Type X, Type Blueglass Exterior Sheathing, 5/8 in. Type C.

**CERTAINTED GYPSUM INC** — Type C, Type X-1, Easi-Lite Type X-2, Type LGFC-C/A

**CGC INC** — Type C, IP-X1, IP-X2, IPC-AR, SCX, ULIX

**GEORGIA-PACIFIC GYPSUM L L C** — Types 5, C, GPFS1, DAPC, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGG, Type DAP, Type DS.

**NATIONAL GYPSUM CO** — FSK (Lath), FSK-C, FSK-G, FSMR-C, FSL, FSW, FSW-C, FSW-G, FSW-3, FSW-6, FSW-8.

**NATIONAL GYPSUM CO** — Riyadh, Saudi Arabia — Type FR.

**PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** — Types C, PG-3, PG-11, PG-C or PGI.

**THAI GYPSUM PRODUCTS PCL** — Type C or Type X .

**THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO** — Types C, SCX

**UNITED STATES GYPSUM CO** — Type SCX, C, IP-X1, IP-X2, IPC-AR, ULIX.

**USG BORAL DRYWALL SFZ LLC** — Types C, SCX

**USG MEXICO S A DE C V** — Types SCX, C, IP-X1, IP-X2, IPC-AR.

8. **Finishing System** — (Not Shown) — Wallboard joints exposed or covered with fiber tape and joint compound. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

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