

# Design No. G505

October 06, 2020

Restrained Assembly Rating — 2 Hr.

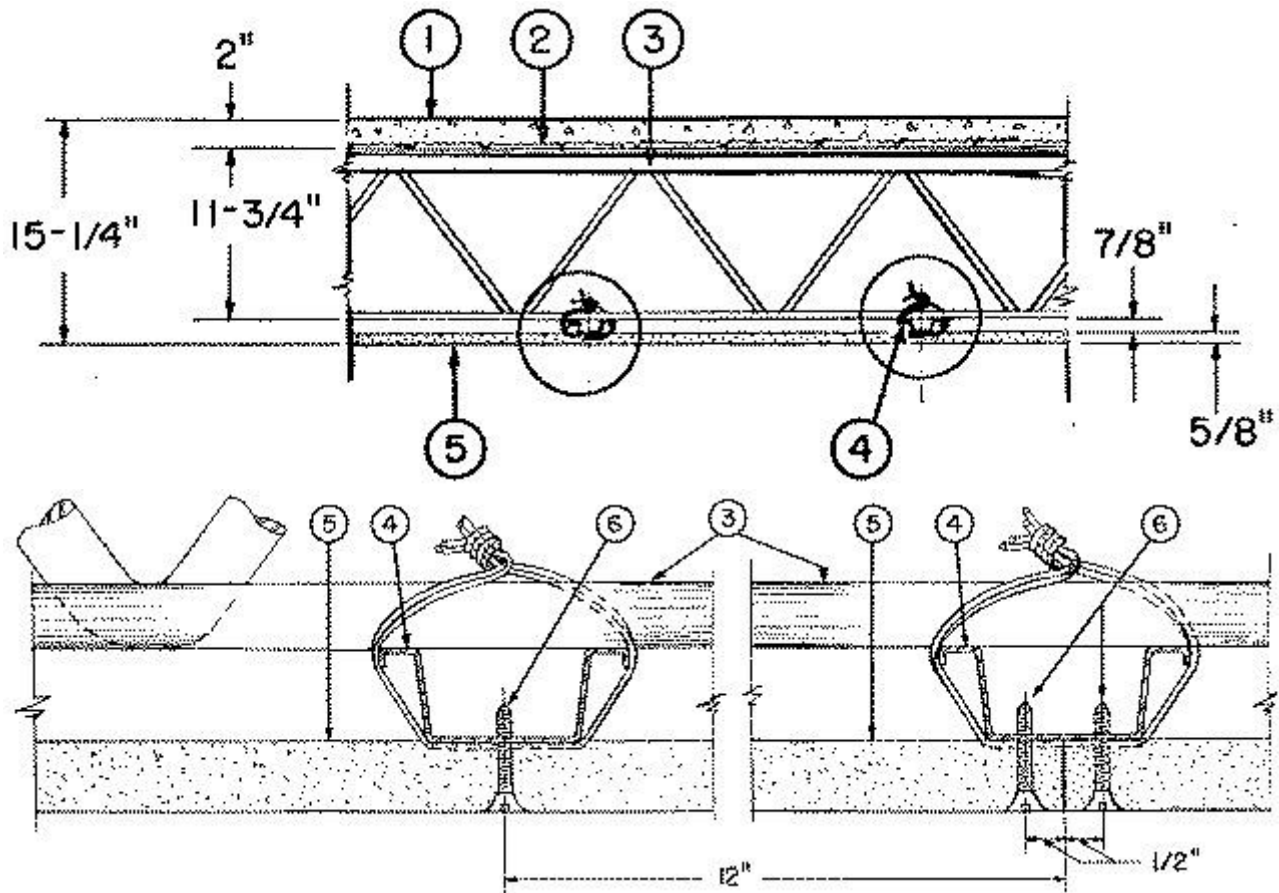
Unrestrained Assembly Rating — 2 Hr.

STC Rating - 60 (See Item 7f)

IIC Rating - 35 or 40 (See Item 7f)

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, 149 + or - 3 pcf unit weight, 3500 psi compressive strength.

2. **Metal Lath** — 3/8 in. rib, 3.4 lb/sq yd expanded steel; tied to each joist at every other rib and midway between joists at side laps with 18 SWG galv steel wire. As an alternate, the form material for the concrete may be corrugated steel deck (unclassified), 9/16 in. deep of 28 MSG (min) galv steel, welded to supports 15 in. O.C. with welding washers. The concrete thickness shall be measured to the top plane of the steel deck. Or, **Classified Steel Floor and Form Units** \* — Noncomposite, 9/16 or 19/32 in. deep, 30, 35 or 36 in. wide, galv steel units. Min gauge is 28 MSG. Welded to supports 15 in. O.C. with welding washers. The concrete thickness shall be measured to the top plane of the steel deck.

**VULCRAFT, DIV OF NUCOR CORP** — Type 0.6C.

2A. **Steel Floor and Form Units\*** — (Not shown) As an alternate to Item 2, Composite 1-1/2 in. deep, 30, 35 or 36 in. wide, galv steel units. Min gauge is 22 MSG. Welded to supports 12 in. O.C. Adjacent units button-punched, welded or screwed together 36 in. OC max along side joints. The concrete thickness shall be measured to the top plane of the steel deck.

**VULCRAFT, DIV OF NUCOR CORP** — Types 1.5VL, 1.5VLI, 1.5PLVLI, 1.5SB, 1.5SBR, 1.5SBI, 1.5SBN.

3. **Steel Joists** — Type 12J3 or 10K1, min size; spaced 24 in. O.C., welded to end supports. Bridging provided by 1/2 in. diam steel bars welded to top and bottom chords of each joist.

4. **Furring Channel** — No. 25 MSG galv steel, 2-3/8 in. or 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced perpendicular to joists at 24 in. O.C., except 12 in. O.C. at end joints noted below, secured to each joist with a double strand of 18 SWG galv steel wire. Adjoining lengths of channels lapped 2 ft, 6 in. and tied together at both ends with a double strand of tie wire.

4A. **Steel Framing Members\*** — (optional, not shown) — alternate method to attach furring channels (Item 4) to joists (Item 3). 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 5.

**PAC INTERNATIONAL L L C** — Types RSIC-1, RSIC-1 (2.75).

4B. **Steel Framing Members\*** — (Optional, Not Shown) - Used as an alternate method to attach furring channels (item 4) to joists (item 3). 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 5.

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

5. **Gypsum Board\*** — 5/8 in. thick, attached with the long dimension at right angles to the furring channels. Wallboard at end joints secured to an additional furring channel wire-tied to the joists and placed over the joint and extending a min of 6 in. beyond the joint at either end. Where wallboard is other than 48 in. wide, the length of the additional channel at end joint may require modification, so that wire tie occurs not less than 6 in. from channel end. Joint treatment not required for this rating, except for tapered rounded-edge wallboard where edge joints are covered

with paper tape and joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

When Steel Framing Members (Item 4A) 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 wallboard 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 RSIC-1 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 4B) 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** — Types AGX-1, AG-C, LightRoc

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

**CERTAINTED GYPSUM INC** — Type C, Type X, Type X-1, Easi-Lite Type X-2.

**CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C** — Type LGFC-C/A, LGFC6A.

**GEORGIA-PACIFIC GYPSUM L L C** — Types 5, C, DAPC, 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 TG-C, Type DGG, Type DAP, Type DS.

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

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

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

6. **Wallboard, Screw** — No. 6 Phillips flathead, self-tapping sheet-metal type screws, 1 in. long, spaced 1/2 in. from edges and 12 in. OC. Screws shall be driven no farther than slightly indented (not deeper than 1/64 in.) into the surface of the wallboard.

7. **STC Rating** — The STC Rating of the assembly applies when it is constructed as described by Items 1 through 6, except:

a. Item 1, above - **Normal Weight Concrete**, as described except minimum thickness 3-1/2 in.

b. Item 2, above - **Welded Wire Fabric** (not shown) 6X6, 10/10 SWG, shall be used in place of Metal Lath.

c. Item 2, above - **Steel Roof Deck** (Unclassified) Corrugated steel deck, 9/16 in. deep of 28 MSG (min) galv steel, welded to supports 15 in. with welding washers.

d. Item 3, above - **Steel Joists**, as described except Type 10K1 shall be used.

e. Item 4, above - **Furring Channel**, as described except attached to joists using Item 4A, **Steel Framing Members**.

f. Item 5, above - **Gypsum Board\*** The STC Rating of the assembly is 60 when one layer of gypsum board is installed as described under Item 5 for Steel Framing Members. The STC Rating of the assembly is 60 when a second layer of 5/8" gypsum board is attached with 1-5/8" long Type S bugle-head steel screws to furring channels. Second layer joints staggered minimum 6" from base layer.

8. **IIC Rating** — The IIC Rating of the assembly is 35 when it is constructed as described in Items 1 through 6, and 7a through 7e, with one layer of gypsum board. The IIC Rating of the assembly is 40 when it is constructed as described in Items 1 through 6, and 7a through 7e with two layers of 5/8" gypsum board. Second layer is attached with 1-5/8" long Type S bugle-head steel screws to furring channels. Second layer joints staggered minimum 6" from base layer.

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[Last Updated](#) on 2020-10-06