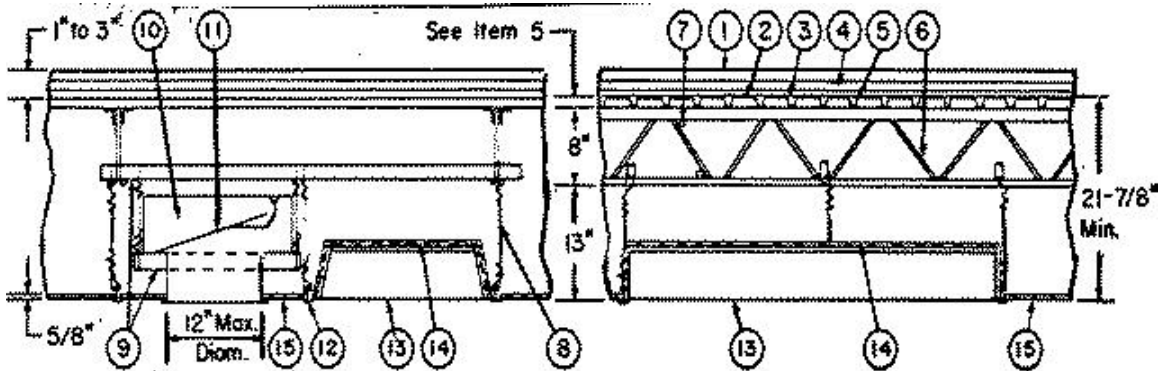


Design No. P211
December 09, 2002

Restrained Assembly Rating — 1 Hr.

Unrestrained Assembly Rating — 1/2 Hr.



Joist girders-(Not shown)-20 in. min depth and 13 lb/lin ft min weight.

1. **Roof Covering*** — Consisting of hot mopped or cold application materials compatible with insulation(s) described herein which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials(TEVT).

1A. **In lieu of Item 1, roof covering consisting of single-ply Roofing Membrane*** — that is either ballasted, adhered or mechanically attached as permitted under the respective manufacturer's Classification. See Fire Resistance Directory-Roofing Membranes (CHCI).

2. **Sheathing Material*** — Optional. Vinyl-film or paper scrim vapor barrier applied with adhesive or laid loosely on steel roof deck, overlapped approx 2 in. on sides.

BMCA INSULATION PRODUCTS INC

FORTIFIBER CORP

3. **Adhesive*** — Optional — May be used with board insulation. Applied at rate of 0.4 gal/100 sq ft in 1/2 in. wide ribbons, approx 6 in. OC beneath each layer of board.

BMCA INSULATION PRODUCTS INC

4. **Mineral and Fiber Boards*** — Total thickness described below, to be applied in one or more layers with adhesive between each layer, or laid loosely. Each layer of board to be offset in both directions from layer below a min of 6 in. in order to lap all joints. Min thickness is 2 in. when Item 1A is used.

BMCA INSULATION PRODUCTS INC — Permalite square edge boards 1 in. thick when applied in one or two layers with a min total thickness of 1 in., max total thickness 2 in.

GAF MATERIALS CORP — GAFTEMP Perlite square edge boards 1 in. thick when applied in one or two layers. Min total thickness 1 in., max. total thickness 2 in.

JOHNS MANVILLE INTERNATIONAL INC — Applied in one or two layers. Min total thickness 1 in., max total thickness 2 in.

5. **Steel Roof Deck** — (Unclassified) — Min 7/8 in. deep and 25 in. wide, galv, fluted steel deck. Min gauge is 26 MSG. Flutes approx 4 in. OC. Welded to each joist with welding washers 12 in. OC; or,

Classified Steel Floor and Form Units* — Noncomposite, 1 or 1-1/2 in. deep, galv units. Min gauge is 22 MSG for 30 or 36 in. wide units and 26 MSG for 24 in. wide units. Spacing of welds attaching units to supports shall not exceed 12 in. OC. Adjacent units button-punched or welded together 36 in. OC. along side joints.

CONSOLIDATED SYSTEMS INC —30 or 36 in. Types B, BI, F.

6. **Steel Joists** — Type 8J2 or 10K1 min size, spaced 48 in. OC, welded to end supports.

7. **Bridging** — 1/2 in. diam steel bars welded to top and bottom chords of each joist.

8. **Hanger Wire** — No. 12 SWG galv steel wire, spaced not over 48 in. OC along main runners, and to occur additionally at splices in main runners, at the intersection of grid suspension members, at all four corners of the light fixtures, at center of cross tees immediately adjacent to the long dimensions of the light fixtures, and at center of cross tees immediately adjacent to air duct outlets. The hanger wires shall be attached to the lower chord of the steel bar joists or to cold-rolled channels attached to the bar joists.

9. **Cold Rolled Channels** — No. 16 MSG cold-rolled steel, 1-1/2 in. deep channels placed under air duct and supported by hanger wires at each end, spaced not over 48 in. OC, and at air outlets to support the air ducts.

10. **Air Duct** — Min 0.029 in. thick (22 gauge) galv steel. Opening of individual outlets not greater than 113 sq in. with max dimension of opening 12 in.; area of outlets in each 100 sq ft not to exceed 57 sq in.

11. **Damper** — Min 0.045 in. thick (18 gauge) galv steel, 14 by 15 in. Protected on both surfaces with 1/16 in. ceramic fiber paper and held open with a **Fusible Link**. (Bearing the UL Listing Mark).

12. **Steel Framing Members*** — Main runners 12 ft long, spaced 48 in. OC. Cross tees nominally 48 in. long, installed perpendicular to main runners 24 in. OC.

ARMSTRONG WORLD INDUSTRIES INC — Types AFG, AFG-A . Type GLBP (consisting of main runners, 4 ft cross tees and steel straps) for use with 24 by 48 in. Type PC lay-in panels.

BPB AMERICA INC — Types PAC, PCH, PCS

CHICAGO METALLIC CORP — Types 250, 260, 1250, 1260, 1850, 1860.

12A. **Steel Framing Members*** — Main runners nom. 10 or 12 ft long, spaced 4 ft OC. Cross tees, nom. 4 ft long, installed perpendicular to main runners, spaced 2 ft OC. Border panels supported at walls by min. 0.016 in. thick painted steel angle with 7/8 in. legs or min. 0.016 in. thick painted steel channel with a 1 by 1-9/16 by 1/2 in. profile.

CGC INTERIORS, DIV OF CGC INC — Types DXL, DXLZ, SDXL.

USG INTERIORS INC — Types DXL, DXLZ, SDXL.

13. **Fixtures, Recessed Light** — (Bearing the UL Listing Mark) — Fluorescent lamp type, steel housing, 2 by 4 ft size. Fixtures spaced so their area does not exceed 16 sq ft per 100 sq ft of ceiling area. Wired in conformance with the National Electrical Code.

14. Fixture Protection — Acoustical Material* — Same as Item 15. Cut into pieces to form a five sided enclosure, trapezoidal in cross-section, approx 1/2 in. longer and wider than the fixture with sufficient depth to provide at least 1/2 in. clearance between the fixture and the enclosure. The pieces are held together by 8d nails spaced max 12 in. O.C.

15. Acoustical Material* — Nom 24 by 48 in. lay-in panels. Border panels supported by min 0.016 in. thick (26 MSG) painted steel angle with 7/8 in. legs; or, min 0.016 in. thick (26 MSG) painted steel channel, 1 5/8 in. deep with 7/8 in. flanges. (S)=surface perforations, (P)=through perforations.

ARMSTRONG WORLD INDUSTRIES INC — Type 5/8 in. PC (S or P).

Hold-Down Clips — (Not Illustrated) — No. 28 MSG spring steel, 5/16 in. deep, 1 5/16 in. wide, placed over cross tees, symmetrically 2 ft O.C. **Nonaccessible Hold-Down Clips** — (Not Illustrated) — No. 28 MSG spring steel, 7/16 in. high, 3/4 in. wide, with top leg 1/2 in. and bottom leg 3/4 in. long, respectively, placed in last acoustical lay-in board installed in ceiling. **Accessible Hold-Down Clips** — (Not Illustrated)— No. 25 MSG painted steel 15/16 in. high, 1 in. wide, with top leg 1 in. and bottom leg 17/32 in. long.

*Bearing the UL Classification Mark

Reprinted from the Online Certifications Directory with permission from Underwriters Laboratories Inc.

Copyright © 2005 Underwriters Laboratories Inc.®