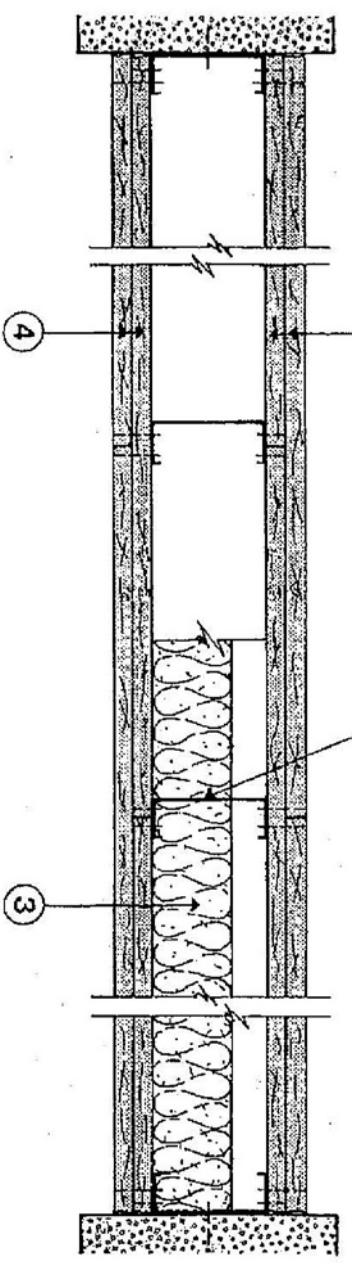


Design No. U412
Nonbearing Wall Rating — 2 HR.



- 1. Floor and Ceiling Runner** — (Not Shown) — 25 MSG (min) galv steel 1 in. high, return legs 1-5/8 in. wide (min), attached to floor and ceiling with fasteners 24 in. OC.
- 2. Steel Studs** — 1-5/8 in. wide (min), 1-1/4 in. legs, 1/4 in. return, formed of 25 MSG (min) galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
- 3. Batts and Blankets*** — (Optional) — Mineral wool or glass fiber bats, partially or completely filling stud cavity. Fasten each batt to wallboard base layer with a min 9/16 in. long staple. Use five staples for each 4 ft long piece. Drive one staple in the center of each piece and a staple at each corner, approx 3 in. from edges.
- 3A. Fiber Sprayed*** — As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose insulation 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./ft³
- U 5 GREENEMBER I L C** — Cocoon stabilized cellulose insulation.
- 4. Gypsum Board*** — 1/2 in. thick. Wallboard applied vertically in two layers. (Laminated System) Inner layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC. along vertical edges and 24 in. OC. in the field. Outer layer laminated to inner layer with joint compound, applied with a notched spreader producing continuous beads of compound about 3/8 in. in diameter, spaced not greater than 2 in. OC. Joints of laminated outer layer offset 12 in. from inner layer joints. Outer layer wallboard attached to inner layer with 1-1/2 in. long Type G steel screws spaced 24 in. OC. along edges and center line of each sheet.

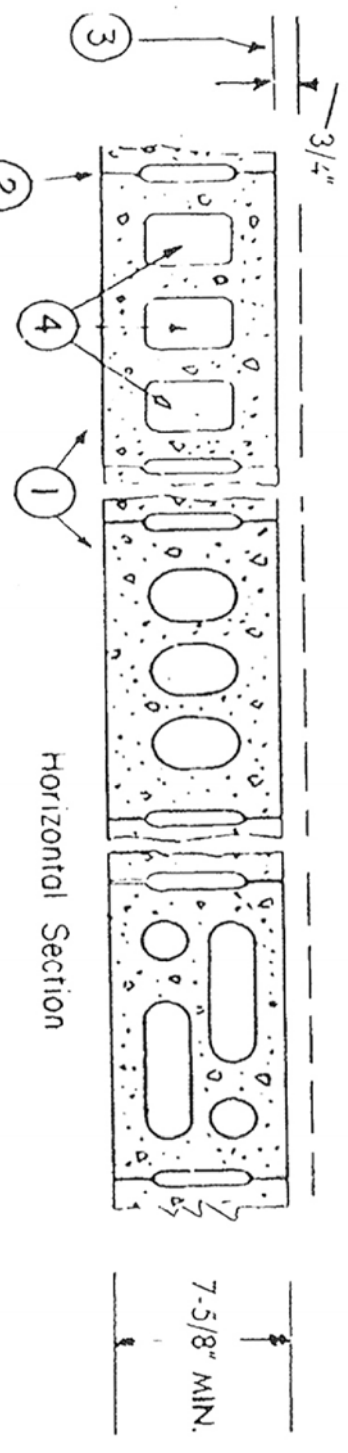
Optional. (Direct Attached System) Wallboard applied vertically in two layers. Inner layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC. in the field and along the vertical edges. Outer layer attached to the studs over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC. in the field, along the vertical edges, and to the floor and ceiling runners. Joints of screw-attached outer layer offset from inner layer joints.

Optional. (Direct Attached System) Inner layer wallboard applied vertically, outer layer wallboard applied horizontally. Inner layer attached to studs with 1 in. Type S steel screws spaced 24 in. OC. along vertical edges and in the field. Outer layer attached to the studs over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC. in the field, along the vertical edges, and to the floor and ceiling runners. Outer layer secured to inner layer wallboard with 1-1/2 in. long Type G steel screws located midway between studs and 1 in. from the horizontal joint.

Outer layer wallboard joints covered with joint tape and min two coats of joint compound, and screw heads covered with min two coats of 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.

- AMERICAN GYPSUM CO.** —Types AG-C, AGX-C.
BPB AMERICA INC
BPB CELOTEX —Type FRP
CANADIAN GYPSUM COMPANY —Type C, IP-X2, IPC-AR or WRC.
CONTINENTAL GYPSUM COMPANY —Types CG-C, CG-5, CGTC-C.
G-P GYPSUM CORP. SUB OF
GEORGIA-PACIFIC CORP —Types 5, C.
JAMES HARDIE GYPSUM INC —Type Max[™].
LAFARGE NORTH AMERICA INC —Type LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO. —Types FSW-G, FSW-C.
PABCO GYPSUM, DIV OF
PACIFIC COAST BUILDING PRODUCTS INC. —Type PG-C.
STANDARD GYPSUM I I C —Type SC-C.
TEMPLE-INLAND FOREST PRODUCTS CORP. —Type TG-C.
UNITED STATES GYPSUM CO. —Type C, IP-X2, IPC-AR or WRC.
USG MEXICO S A DE C V —Type C, IP-X2, IPC-AR or WRC.
*Bearing the UL Classification Mark

Design No. U905
Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR.



- 1. Concrete Blocks*** — Various designs. Classification D-2 (2 hr). See **Concrete Blocks** category for list of eligible manufacturers.
- 2. Mortar** — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.
- 3. Portland Cement Stucco or Gypsum Plaster** — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).
- 4. Loose Masonry Fill** — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Klin Process), water repellent vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.
- 5. Foamed Plastic*** — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).

BPB AMERICA INC
BPB CELOTEX —Type Thermanx
*Bearing the UL Classification Mark

Design No. U497
Nonbearing Wall Rating — 2 HR.



- 1. Channel Track** — "I"-shaped channel, 2-1/2 in. deep with unequal legs of 1 in. and 2 in., fabricated from No. 25 MSG galv steel. Channel positioned with short leg toward finished side of wall. Channel attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.
- 2. Steel Studs** — "I"-shaped studs, 2-1/2 in. deep by 1-1/2 in. wide, fabricated from No. 25 MSG galv steel. Cut to lengths 1/2 in. less than floor to ceiling height and spaced 24 in. OC.
- 3. Gypsum Board*** — 1 in. thick gypsum wallboard inner panels supported in nom 24 in. widths. Panels cut 1 in. less in length than floor to ceiling heights. Vertical edges inserted in "I" studs. Free edge of end panels attached to long leg of channel track with 1-5/16 in. long Type S self-drilling self-tapping bangle head steel screws spaced 1 in. in from both edges.
- NATIONAL GYPSUM CO.** —Types FSW, FSW-B.
GYPSUM BOARD* — 1/2 in. thick, 4 ft wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S self-drilling self-tapping bangle head steel screws spaced 24 in. OC. along the edges and in the field of the boards. Outer or face layer attached to studs and channel track with 1-5/8 in. long Type 5 self-drilling self-tapping bangle head steel screws spaced 12 in. along the edges and in the field of the boards, staggered from screw in inner layer. Joints between inner and outer layers staggered. Outer layer joints covered with joint compound. Exposed screw heads covered with joint compound.
- CANADIAN GYPSUM COMPANY** —Types C, IP-X2, IPC-AR.
JAMES HARDIE GYPSUM INC —Type Max[™].
LAFARGE NORTH AMERICA INC —Types LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO. —Types FSW-C, FSW-C.
UNITED STATES GYPSUM CO. —Types C, IP-X2, IPC-AR.
USG MEXICO S A DE C V —Types C, IP-X2, IPC-AR.

- 1. Floor and Ceiling Runner** — (not shown) Channel-shaped runners, 2-1/2 in. wide by 1-1/4 in. deep fabricated from 22 MSG galv steel.
- 2. Studs** — Channel-shaped, 2-1/2 in. wide by 1-3/8 in. deep with 1/4 in. folded back return flange legs. Fabricated from 22 MSG galv steel. Max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height. The studs are attached to the top and bottom runners with four 1/4 in. Type 5 steel screws, one through each face.
- 3. Bracing** — (two types) Cut from steel runners or studs, cavity width, fastened with two 1/4 in. long Type 5 steel screws in each stud, braces spaced max 48 in. OC. As an alternate bracing cut from gypsum board, length equal to stud cavity width and 6 in. wide. Fasten with two 1 in. long Type 5 steel screws in each stud, space braces max 48 in. OC.
- Batts and Blankets*** — Glass fiber bats, partially or completely filling stud cavity. Fasten each batt to one base layer of gypsum board with minimum 9/16 in. long steel staples. Drive one staple into the top center and one into each top corner of the batt. Minimum batt thickness 50 mm (2 in.) and density 0.7 lb./cu ft. See Batts and Blankets (BZ1Z) category for names of manufacturers.
- 5. Gypsum Board** — 15 mm (5/8 in.) thick. Base layer attached with 1 in. long Type 5 steel screws spaced 24 in. OC. Face layers attached with 1-5/8 in. long Type 5 steel screws spaced 12 in. OC. Joints oriented vertical with offsets. Butt joints located over studs.
- UNIVERSAL CEMENT CORP.** —Types GB-F, GB-F W/R, GB-S.
UNIVERSAL CEMENT CORP. —Types GB-F, GB-F W/R, GB-S.
Joint Tape and Compound — For all outer layers vinyl, dry or pre-mixed compound, applied in two coats to joints and screw heads. Paper tape, 2 in. wide, embedded in first layer of compound over all joints.
*Bearing the UL Classification Mark