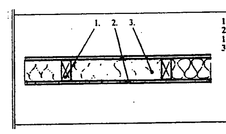
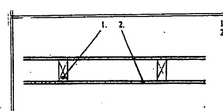
SOUND TRASMISSION CLASS INFORMATION



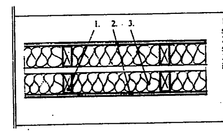
1. 2x4 studs, 16"o.c.
2. 1/2" type X gypsum board screwed 12"o.c.
3. 3 1/2" thick sound attenuation blanket.

--	Owens/Corning Fiberglas OCF W-20-69 1969 16F Owens/Corning Fiberglas	39	1.2.1.1.4.8



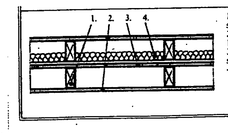
1. 2x4 studs, 16"o.c.
2. 1/2" gypsum board screwed to studs.

--	National Research Council of Canada NRC #64 1962 16F National Research Council of Canada	34	1.2.1.1.4.1



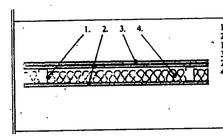
1. double row of 2x4 studs 16"o.c. on seperate plates spaced 1" apart.
2. 1/2" type X gypsum board attached with screws 16"o.c.
3. 3 1/2" thick sound attenuation blankets in both stud cavities.

--	Riverbank Acoustical Labs. TL75-83 1975 16F U.S. Dept. of Agriculture	57	1.2.4.1.5.6



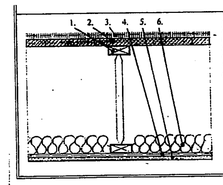
1. double row of 2x4 studs 16"o.c. on seperate plates spaced 1" apart.
2. 1/2" type X gypsum board screwed 12"o.c.
3. 3 1/2" type X gypsum board screwed to studs.
4. 1 1/2" thick sound attenuation blanket.

--	Owens/Corning Fiberglas OCF 432 1964 16F Owens/Corning Fiberglas	54	1.2.4.1.3.12



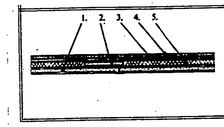
1. 2 1/2" metal studs, 24"o.c.
2. 1/2" type X gypsum board screwed 12"o.c.
3. 1/2" type X gypsum board screwed 24"o.c.
4. 3" thick sound attenuation blanket.

--	Owens/Corning Fiberglas OCF 331 1967 16F Owens/Corning Fiberglas	51	1.3.2.5.4.1



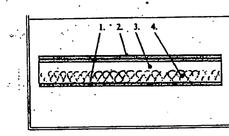
1. 18" deep cjtcn-web joists, 32"o.c.
2. 1 1/8" tongue and groove plywood nailed to joists.
3. 44 oz. carpet on 40 oz. hair pad.
4. resilient channels, 24"o.c.
5. 5/8" gypsum board screwed 12"o.c.
6. 2" thick sound attenuation blanket.

--	Kodens Acoustical Labs 224-34-65 1965 11F Atterian Plywood Assn.	47 69	2.2.1.2.1.2



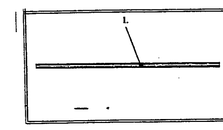
1. 1" by 24" gypsum board panels attached to angle runners at floor and ceiling with screws 6"o.c.
2. 1" by 6" gypsum board thin lined into metal shaft stud flanges and screwed 36"o.c.
3. 1/2" type X gypsum board screwed 24"o.c.
4. 1/2" type X gypsum board screwed 12"o.c.
5. 1" thick sound attenuation blanket.

--	Owens/Corning Fiberglas OCF RISE W-8-72 1972 16F Gypsum Association	48	1.1.3.2.4.1



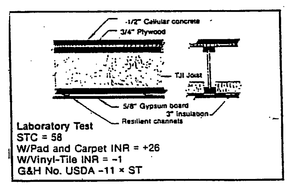
1. 1/2" gypsum board, on studs.
2. 1/2" gypsum board laminated to base layer with gypsum joint compound.
3. 3 3/8" air cavity.
4. 2" thick sound attenuation blanket.

--	National Research Council of Canada NRC #66 1966 16F National Research Council of Canada	48	1.1.3.3.4.3



1. 5/8" gypsum board.

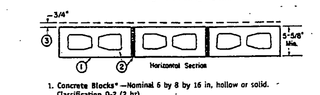
--	National Research Council of Canada NRC #66 1966 16F National Research Council of Canada	29	1.1.1.1.5.1



Laboratory Test
STC = 58
W/Pad and Carpet INR = +26
W/Vinyl-Tile INR = -1
G&H No. USDA -11 • ST

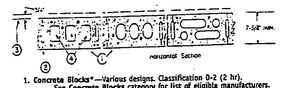
UL ASSEMBLY INFORMATION

Design No. U906
Bearing Wall Rating—2 HR.
Nonbearing Wall Rating—2 HR.



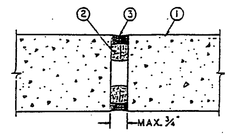
1. Concrete Blocks*—Nominal 6 by 8 by 16 in. hollow or solid. Classification B-2 (2 hr).
   Ancher Concrete Products, Inc.
   Florida Rock Industries, Inc.
   Pike Industries Inc., d/b/a Tilcon Whitcomb.
   Westbrook Concrete Block Co., Inc.
2. Mortar—Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 2-1/2 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. Attached to concrete blocks (Item 1).
4. Foamed Plastic*—(Optional-Not Shown)—1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
   Celotex Corp.—Type Thermax
*Bearing the UL Classification Marking

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



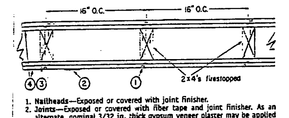
1. Concrete Blocks*—Hollow designs, Classification B-2 (2 hr).
   See Concrete Blocks category for list of eligible manufacturers.
2. Mortar—Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 2-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned 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. 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 Kiln Process), water repellent vermiculite masonry fill insulation, or siliceous 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).
   Celotex Corp.—Type Thermax
*Bearing the UL Classification Marking

Design No. J8000
Assembly Rating—2 HR.



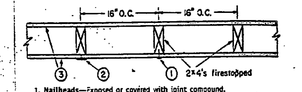
1. Floor Assemblies—Steel-reinforced lightweight or normal weight (100-150 pcf) structural concrete, nom 2 in. min thickness of 4-1/2 in. and having a min 2 hr fire resistance rating.
2. Joint Treatment Materials*—
   Finishing Material—Pvf joint openings up to 1/2 in. in width, the finishing material shall be a min. of 3/8 in. thick. Pvf joint openings up to 3/4 in. in width, the finishing material shall be a min. of 5/8 in. thick.
   A min 2 in. width of resilient material shall be ribbed in half and installed symmetrically into joint opening, centered over 1/2 in. thick tape and bottom surface of floor slab.
   Specified Tool Manufacturing & Supply Co.—Type ULTRA BLOCK
3. Joint Treatment Materials*—
   Finishing Material—Pvf joint openings symmetrically over packing material to a min thickness of 1/2 in. flush with top and bottom surfaces of floor slab.
   Ellenite-Products Inc.—Type FR-7 L.
*Bearing the UL Classification Marking

Design No. U301
Bearing Wall Rating—2 HR.
Finish Rating—66 Min.



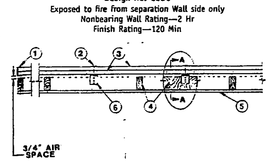
1. Wallboard—Exposed or covered with joint finisher.
2. Joint Treatment—Covered with fiber tape and joint finisher. As an alternate, nominal 1/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.
3. Wallboard—Screw-attached nails 1-1/8 in. long, 0.0915 in. shank diam, 1/4 in. diam heads, and 6d cement coated nails 2-3/8 in. long, 0.113 in. shank diam, 15/32 in. diam heads.
4. Wallboard, Gypsum*—1/8 in. thick, two layers applied either horizontally or vertically to studs with the 1st layer with the 1-7/8 in. nails spaced 8 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
   American Gypsum Co.—Type AG-C or AGX-11.
   Boral Gypsum Inc.—Type GC-1 or GSX-1.
   Canadian Gypsum Company—Type AR, C, IP-X1, IP-X2, SCX, SHX, WRC, WRX or WSC.
   Celotex Corp.—Type 1 or FRP.
   Continental Gypsum Company—Type CG-2, CG-3, CG-1W, CG-1WS, CGS-5, CG-5WS, CGS-6, CGS-6-S or CGSC-C.
   G-P Gypsum Corp.—Type 1, 5, 5-C or GP-C.
   James Hardie Gypsum Inc.—Type Fire X, Fire'C'
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC (Finish rating 20 min), Type LGCS (Finish rating 20 min), Type LGFCX (Finish rating 26 min), Type LGFC-C (Finish rating 20 min).
   National Gypsum Co., Charlotte, NC.—Type FSX (Finish rating 20 min), Type FSW (Finish rating 20 min), Type FSW (Finish rating 20 min), Type FSW-2 (Finish rating 24 min), Type FSW-3 (Finish rating 20 min), Type FSW-4 (Finish rating 20 min) or Type FSW-C (finish rating 20 min).
   National Gypsum Co., Riyadh, Saudi Arabia—Type FR or WR.
   Pabco Gypsum—Types C, PC-2 (Finish rating 20 min), PC-3 (Finish rating 20 min), Types PC-3W, PC-5W (Finish rating 20 min), Type PC-6 (Finish rating 23 min), Types PC-3WS, PC-5WS (Finish rating 20 min), Types PC-5, PC-5 (Finish rating 24 min) or Type C-C.
   Republic Gypsum Co.—Type FG-1 (Finish rating 20 min), Type FG-2 (Finish rating 20 min), Type FG-3 (Finish rating 20 min), Type FG-4 (Finish rating 20 min), Type RG-4 (Finish rating 20 min) or Type RG-C.
   Standard Gypsum Corp.—Type SGC(finish rating 20 min), Type SGC-1(finish rating 20 min.) Type SG-C or SGC-C(finish rating 20 min).
   Temple-Inland Forest Products Corp.—Types F (Finish rating 20 min), VFB-Type T (finish rating 20 min), Type VFB-C (Finish rating 20 min), Type F (Finish rating 20 min), Type FSW, VFSW-C, Type F (Finish rating 20 min), Type SWRX Board.
   Three Rivers Gypsum, Inc.—Type SHX or WRX.
   United States Gypsum Co.—Type AR (finish rating 26 min), Type SCX (finish rating 26 min), Type C (finish rating 26 min), Type WRX (finish rating 26 min), Type WRC (finish rating 26 min), Type IP-X1 (finish rating 26 min), Type IP-X2 (finish rating 26 min), Type SHX (finish rating 26 mins).
   Westroc Inc.—Type Westroc Fireboard.
   Yoso Panamericana SA de CV—Type AR, C, IP-X1, IP-X2, SCX, SHX, WRC, WRX or WSC.
4A. Wallboard, Gypsum*—As an alternate to Item 4)—Nom 3/4 in. thick, installed as described in Item 4.
   Canadian Gypsum Company—Type AR.
   United States Gypsum Co.—Type AR.
   Yoso Panamericana SA de CV—Type AR.
4B. Wallboard, Gypsum*—(As an alternate to Items 3 and 3A) —5/8 in. thick, 4 ft wide, square edge. applies vertically. Wallboard nailed 8 in. OC with 1-3/4 in. long galvanized roofing nails. Joint covering (Item 2) not required.
   Canadian Gypsum Company—Type WSX (finished rating 22 min).
   United States Gypsum Co.—Type WSX (Finished rating 22 min).
   Yoso Panamericana SA de CV—Type WSX (finished rating 22 min).
5. Steel Corner Fasteners—(Optional)—For use at wall corners. Channel shaped, 26 ga galv steel, 2 in. wide legs, with one leg notched two 1/8 in. wide holes spaced along the 1/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the wallboard, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.
6. Batts and Blankets*—(Optional, Not Shown) glass fiber or mineral wool insulation.
   Certainteed Corp.
   Johns Manville International Inc.
   Knauf Fiber Glass GmbH.
   Owens-Corning Fiberglas Corp.
   Rmst Inc.
   Thermafiber CLC—type SAFB.
*Bearing the UL Classification Marking

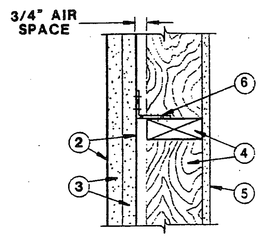
Design No. U305
Bearing Wall Rating—1 HR.
Finish Rating—See Item 3.



1. Nailheads—Exposed or covered with joint compound.
2. Joint Compound—Exposed or covered with fiber tape and joint compound, except where required for specific edge configuration. For tapered, rounded-edge wallboard, joints covered with joint compound or fiber tape and joint compound. As an alternate, nom 1/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.
3. Wallboard, Gypsum*—5/8 in. thick wallboards 2spar or vinyl surfaced, with beveled, square, or tapered edges, applies either horizontally or vertically. Wallboard nailed 7 in. OC with 6d cement coated nails 2-1/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads. When used in widths of other than 48 in., wallboard is to be installed horizontally.
   American Gypsum Co.—Type AG-C, AGX-1 (finish rating 23 min.), Type AGX-2, AGX-11 (finish rating 26 min) or Type AG-C.
   Boral Gypsum Inc.—Type DDR1 (finish rating 20 min), Type DDX2 (finish rating 23 min), Type DDW3 (finish rating 20 min), Type DDQG3 (finish rating 20 min) or Type DLC.
   Canadian Gypsum Company—Type AR, C (finish rating 20 min), Type IP-X1 (finish rating 26 min), Type IP-X2 (finish rating 23 min), Type SCX (finish rating 26 min), Type SHX (finish rating 26 min), Type WRC (finish rating 24 min), Type WRX (finish rating 26 min).
   Celotex Corp.—Type 1, Type SF2 (finish rating 20 min), Type 2 (finish rating 27 min), Type 8 (finish rating 20 min), Type 1 (finish rating 23 min) or Type FRP.
   Continental Gypsum Company—Type CG-1 (finish rating 20 min), Type CG-2 (finish rating 20 min), Type CG-3 (finish rating 20 min), Type CG-1-S (finish rating 20 min), Type CG-5 (finish rating 26 min), Type CGX-5 (finish rating 26 min), Type CG-6 (finish rating 20 min), Types CG-1W, CG-1WF (finish rating 20 min), Types CG-1WS, CG-1WSF (finish rating 20 min), Type CGC-C (finish rating 20 min), Type CGX-C (finish rating 26 min), Type CGX-6 (finish rating 23 min), Type CGX-6-S (finish rating 26 min), Type CGT-6 (finish rating 23 min), Type CGSC-C (finish rating 20 min).
   G-P Gypsum Corp.—Type 1 (finish rating 26 min), Type 6 (finish rating 23 min), Type 5 (finish rating 26 min), Type 5-C (finish rating 26 min), Type GP-C, GP-C (finish rating 20 min), Type GP53 (finish rating 20 min), Type GP52 (finish rating 20 min), Type GP55X (finish rating 26 min).
   James Hardie Gypsum Inc.—Type Fire X (finish rating 26 min). Type Mar'C'.
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC2 (finish rating 20 min), Type LGCS (finish rating 20 min), Type LGFCX (finish rating 26 min), Type LGFC-C (finish rating 20 min).
   National Gypsum Co., Charlotte, NC.—Type FSX (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-4 (finish rating 20 min) or Type FSW-C (finish rating 20 min).
   National Gypsum Co., Riyadh, Saudi Arabia—Type FR or WR.
   Pabco Gypsum—Types C, PC-2 (Finish rating 20 min), PC-3 (Finish rating 20 min), Types PC-3W, PC-5W (finish rating 20 min), Type PC-6 (Finish rating 23 min), Types PC-3WS, PC-5WS (finish rating 20 min), Types PC-5, PC-5 (finish rating 24 min) or Type C-C.
   Republic Gypsum Co.—Type FG-1 (finish rating 20 min), Type FG-2 (finish rating 20 min), Type FG-3 (finish rating 20 min), Type RG-4 (finish rating 20 min), Type RG-4 (finish rating 20 min) or Type RG-C.
   Standard Gypsum Corp.—Type SGC(finish rating 20 min), Type SGC-1(finish rating 20 min.) Type SG-C or SGC-C(finish rating 20 min).
   Temple-Inland Forest Products Corp.—Types F (Finish rating 20 min), VFB-Type T (finish rating 20 min), Type VFB-C (Finish rating 20 min), Type F (Finish rating 20 min), Type FSW, VFSW-C, Type F (Finish rating 20 min), Type SWRX Board.
   Three Rivers Gypsum, Inc.—Type SHX or WRX.
   United States Gypsum Co.—Type AR (finish rating 26 min), Type SCX (finish rating 26 min), Type C (finish rating 26 min), Type WRX (finish rating 26 min), Type WRC (finish rating 26 min), Type IP-X1 (finish rating 26 min), Type IP-X2 (finish rating 26 min), Type SHX (finish rating 26 mins).
   Westroc Inc.—Type Westroc Fireboard.
   Yoso Panamericana SA de CV—Type AR, C, IP-X1, IP-X2, SCX, SHX, WRC, WRX or WSC.
3A. Wallboard, Gypsum*—As an alternate to Item 3)—Nom 3/4 in. thick, installed as described in Item 3.
   Canadian Gypsum Company—Type AR.
   United States Gypsum Co.—Type AR.
   Yoso Panamericana SA de CV—Type AR.
3B. Wallboard, Gypsum*—(As an alternate to Items 3 and 3A) —5/8 in. thick, 4 ft wide, square edge. applies vertically. Wallboard nailed 8 in. OC with 1-3/4 in. long galvanized roofing nails. Joint covering (Item 2) not required.
   Canadian Gypsum Company—Type WSX (finished rating 22 min).
   United States Gypsum Co.—Type WSX (Finished rating 22 min).
   Yoso Panamericana SA de CV—Type WSX (finished rating 22 min).
4. Steel Corner Fasteners—(Optional)—For use at wall corners. Channel shaped, 26 ga galv steel, 2 in. wide legs, with one leg notched two 1/8 in. wide holes spaced along the 1/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the wallboard, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.
5. Batts and Blankets*—(Optional, Not Shown) glass fiber or mineral wool insulation.
   Certainteed Corp.
   Johns Manville International Inc.
   Knauf Fiber Glass GmbH.
   Owens-Corning Fiberglas Corp.
   Rmst Inc.
   Thermafiber CLC—type SAFB.
*Bearing the UL Classification Marking

Design No. U326
Exposed to Fire from separation Wall side only
Nonbearing Wall Rating—2 Hr
Finish Rating—120 Min

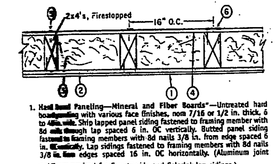




SECTION A-A

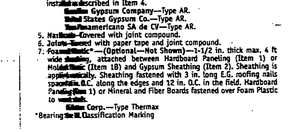
SEPARATION WALL (Fire Inside - 44 Min)
1. Floor, Intermediate or Top Wall—1 hr, wide channel shaped with 1 in. long legs formed from No. 25 MSG galv steel, secured with suitable fasteners spaced 24 in. OC.
2. Metal Studs—Steel members formed from No. 25 MSG galv steel having "H"-shaped flanges spaced 24 in. OC overall depth 2 in. and flange width 1-3/8 in.
3. Wallboard, Gypsum*—Two layers of 1 in. thick gypsum wallboard liner panels applied in nom 24 in. widths. Vertical edges of panels friction fitted into "H"-shaped studs.
   Canadian Gypsum Company—Type SLX.
   United States Gypsum Co.—Type SLX.
   Yoso Panamericana SA de CV—Type SLX.
PROTECTIVE MEMBRANE (Optional)
4. Steel Studs—Nom 1 in. wide channel shaped studs, fabricated from 25 MSG galv steel, spaced 24 in. OC. Studs cross braced at mid-height where necessary for clip attachment. Min 3/4 in. separation between wood framing and the separation wall.
5. Wallboard, Gypsum—Classified or Unclassified—Min 1/2 in. thick, 4 ft wide, applied either horizontally or vertically. Wallboard attached to each with 1-1/4 in. long steel drywall nails spaced 8 in. OC. Vertical joints located over studs. All joints covered with joint compound. Paper tape and joint compound. Wall heads covered with joint compound.
6. Attachment Clips—Aluminum angle, 0.063 in. thick, 2 in. wide with 2 in. and 2-1/4 in. legs. Clips secured with Type S screws 3/8 in. long to "H" studs and with Type W screws 1-1/4 in. long to wood framing through tabs provided in clips.
6A. Clip placement (Item 6) for separation walls up to 22 ft high. Space clips a max of 10 ft OC vertically between wood framing and the studs.
6B. Clip placement (Item 6) for separation walls up to 44 ft high. Space clips as described in Item 6A for upper 22 ft. framing and space tabs on lower clips spaced a max 5 ft OC vertically between wood framing and the studs.
*Bearing the UL Classification Marking

Design No. U326
Exposed to Fire On Wallboard Face Only)
Bearing Wall Rating—1 HR.



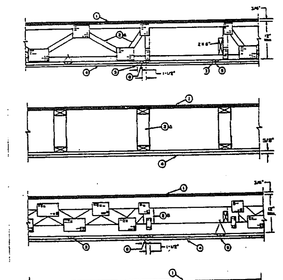
1. Stud Joist Flooring—Mineral and fiber board*—Unreasoned hard pressed board in various face finishes, nom 7/16 or 1/2 in. thick, 4 by 4ft. sheets. Sheets applied with face perpendicular to framing members with butt joints over framing members and located midway between edges of adjacent sheets. Sheets attached to framing members with 8d nails 2-1/4 in. long for 7/16 in. thick sheets and 2-1/2 in. long for 1/2 in. thick sheets spaced 6 in. OC along edges and in the field.
   Masonite Corp.—Type ITT.
1A. In Lieu of Item 1, the following Mineral and Fiber Board* may be used:
   Flakeboard Ltd.—Type 2-M-1 or 2-M-2 Flakeboard, 7/16 in. thick, 4 ft wide. Flakeboard to be used with 10d cooler nails, 2-1/2 in. long with 5/16 in. diam heads, spaced 6 in. OC along edges and 12 in. OC in the field.
   Masonite Corp.—Type ITT.
1B. Probonded Floor—In lieu of Item 1, the following Molded Plastic* may be used: Sheet wood siding mechanically secured to framing members in accordance with manufacturer's recommended installation details.
   Abitibi-Price Products, Div. of Alcan Aluminum Corp.
   Associated Materials, Inc. Alsike, Div. of
   Bird Plastics Ltd.
   Tyee Building Products, Inc.
   Wpc Corp.
2. Gypsum Concrete—Any nom 1/2 in. (min) thick gypsum cheathing in 2 layers, 24 in. wide, installed perpendicularly. Attached to each wood stud with 1-1/2 in. long 6d nails spaced vertically 8 in. OC.
3. Batts and Blankets*—Min 3 in. thick glass fiber batts.
   Certainteed Corp.
   Johns Manville International Inc.
   Knauf Fiber Glass GmbH.
   Owens-Corning Fiberglas Corp.
4. Wallboard, Gypsum*—Nom 5/8 in. nailed 7 in. OC, vertically or horizontally to 2 by 4in. long 6d nails. When used in widths other than 48 in. wallboard is to be installed horizontally.
   Canadian Gypsum Company—Type SCX, SHX or WRX.
   National Gypsum Co., Riyadh, Saudi Arabia—Type FR or WR.
   United States Gypsum Co.—Type SCX, SHX or WRX.
   Yoso Panamericana SA de CV—Type SCX, SHX, WRX.
4A. Wallboard, Gypsum*—As an alternate to Item 4)—Nom 3/4 in. thick, installed as described in Item 4.
   Canadian Gypsum Company—Type AR.
   United States Gypsum Co.—Type AR.
   Yoso Panamericana SA de CV—Type AR.
5. Resilient Channels—Formed from min 25 MSG galv steel, spaced 24 in. OC with flanges attached to studs with 1 in. long screws spaced 24 in. OC along the edges and to the face of the boards. Outer or face layer attached to studs and "J"-runners with 1-5/8 in. long Type S self-drilling, self-tapping bugle head steel screws spaced 12 in. OC along the edges and in the field of the boards. Inner layer attached to studs with 1 in. long Type S self-drilling, self-tapping bugle 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 "J"-runners with 1-5/8 in. long Type S self-drilling, self-tapping bugle head steel screws spaced 12 in. OC along the edges and in the field of the boards, staggered from screws in inner layer. Joints between inner and outer layers staggered.
   Outer layer joints covered with staple type and joint compound. Exposed screw heads covered with joint compound.
   As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. type S screws screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J"-runners over the inner layer with 1-5/8 in. long Type S self-drilling, self tapping bugle head 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 with 1 in. long Type S screws spaced 12 in. OC in screws located midway between ends and 1 in. from the horizontal joints.
   American Gypsum Co.—Type AG-C.
   Boral Gypsum Inc.—Type GC-1.
   Canadian Gypsum Company—Type C or WRC.
   Celotex Corp.—Type FRP.
   Continental Gypsum Company—Types CG-C, CGS-5, CGTC-C.
   G-P Gypsum Corp.—Type 5.
   James Hardie Gypsum Inc.—Type Mar'C'.
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC-C.
   National Gypsum Co., Charlotte, NC.—Type FSW-C.
   Pabco Gypsum Co.—Type C.
   Temple Inland Forest Products Corp.—Type C.
   United States Gypsum Co.—Type C or IP-X2.
   Yoso Panamericana SA de CV—Type C or WRC.
4A. Wallboard, Gypsum*—(As an alternate to Item 4)—5/8 in. thick, 4 ft wide, applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S self-drilling, self-tapping bugle 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 "J"-runners with 1-5/8 in. long Type S self-drilling, self-tapping bugle head steel screws spaced 12 in. OC along the edges and in the field of the boards. Outer layer secured to inner layer with 1 in. long Type S screws spaced 12 in. OC in screws located midway between ends and 1 in. from the horizontal joints.
   American Gypsum Co.—Type AG-C.
   Boral Gypsum Inc.—Type GC-1.
   Canadian Gypsum Company—Type C or WRC.
   Celotex Corp.—Type FRP.
   Continental Gypsum Company—Types CG-C, CGS-5, CGTC-C.
   G-P Gypsum Corp.—Type 5.
   James Hardie Gypsum Inc.—Type Mar'C'.
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC-C.
   National Gypsum Co., Charlotte, NC.—Type FSW-C.
   Pabco Gypsum Co.—Type C.
   Temple Inland Forest Products Corp.—Type C.
   United States Gypsum Co.—Type C or IP-X2.
   Yoso Panamericana SA de CV—Type C or WRC.
5. Screw, Wallboard—1 in. type, S fine thread, self-drilling and self-tapping, bugle head.
6. Finishing System —(Not shown)—Paper tape embedded in joint compound over joints between wallboard. Fastener heads and corner beads covered with compound. As an alternate, nom 2/32 in. thick veneer plaster may be applied to the entire surface of gypsum wallboard.
*Bearing the UL Classification Marking

Design No. U438
Nonbearing Wall Rating—2 HR.



1. Floor and Ceiling Runners—"J"-shaped runner, 2-1/2 in. wide with upward legs of 1 in. and 2 in., fabricated from 24 MSG galv steel. Runners positioned with short leg toward finished side of wall. Runners 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—"C"-shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from 25 MSG galv steel. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height and spaced 24 in. or 600 mm OC.
2A. Steel Studs—Stiffened channel-"C"-shaped studs installed in place of 1"-C"-shaped studs (Item 2) to secure the closure liner panels at the wall to floor junction. Studs fabricated from 25 MSG galv steel, 2-1/2 in. wide by 1 in. deep and two legs 3/4 in. long. Shorter legs 1 in. apart to engage opposite liner panels. Cut to lengths 3/8 in. less than floor to ceiling height. Of one times of spacing formed with "J"-shaped runners (Item 1) secured to "C"-shaped studs with angle clips and steel screws.
3. Wallboard, Gypsum*—1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. or 600 mm (for metric spacing) widths. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H"-shaped sections of the studs and runners. Liner panels attached to studs with 1 in. type S screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to studs and "J"-runners with 1-5/8 in. long bugle head steel screws spaced 12 in. OC.
   Canadian Gypsum Company—Type SLX.
   United States Gypsum Co.—Type SLX.
   Yoso Panamericana SA de CV—Type SLX.
4. Wallboard, Gypsum*—1/2 in. thick, 4 ft. or 1200 mm (for metric spacing) wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S self-drilling, self-tapping bugle 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 "J"-runners with 1-5/8 in. long Type S self-drilling, self-tapping bugle head steel screws spaced 12 in. OC along the edges and in the field of the boards, staggered 12 in. from screws in inner layer. Joints between inner and outer layers staggered.
   Outer layer joints covered with staple type and joint compound. Exposed screw heads covered with joint compound.
   As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. type S screws screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J"-runners over the inner layer with 1-5/8 in. long Type S self-drilling, self tapping bugle head 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 with 1 in. long Type S screws spaced 12 in. OC in screws located midway between ends and 1 in. from the horizontal joints.
   American Gypsum Co.—Type AG-C.
   Boral Gypsum Inc.—Type GC-1.
   Canadian Gypsum Company—Type C or WRC.
   Celotex Corp.—Type FRP.
   Continental Gypsum Company—Types CG-C, CGS-5, CGTC-C.
   G-P Gypsum Corp.—Type 5.
   James Hardie Gypsum Inc.—Type Mar'C'.
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC-C.
   National Gypsum Co., Charlotte, NC.—Type FSW-C.
   Pabco Gypsum Co.—Type C.
   Temple Inland Forest Products Corp.—Type C.
   United States Gypsum Co.—Type C or IP-X2.
   Yoso Panamericana SA de CV—Type C or WRC.
4A. Wallboard, Gypsum*—(As an alternate to Item 4)—5/8 in. thick, 4 ft wide, applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S self-drilling, self-tapping bugle 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 "J"-runners with 1-5/8 in. long Type S self-drilling, self-tapping bugle head steel screws spaced 12 in. OC along the edges and in the field of the boards. Outer layer secured to inner layer with 1 in. long Type S screws spaced 12 in. OC in screws located midway between ends and 1 in. from the horizontal joints.
   American Gypsum Co.—Type AG-C.
   Boral Gypsum Inc.—Type GC-1.
   Canadian Gypsum Company—Type C or WRC.
   Celotex Corp.—Type FRP.
   Continental Gypsum Company—Types CG-C, CGS-5, CGTC-C.
   G-P Gypsum Corp.—Type 5.
   James Hardie Gypsum Inc.—Type Mar'C'.
   Lafarge Gypsum, A Div. of Lafarge Corp.—Type LGFC-C.
   National Gypsum Co., Charlotte, NC.—Type FSW-C.
   Pabco Gypsum Co.—Type C.
   Temple Inland Forest Products Corp.—Type C.
   United States Gypsum Co.—Type C or IP-X2.
   Yoso Panamericana SA de CV—Type C or IP-X2.
5. Screw, Wallboard—1 in. type, S fine thread, self-drilling and self-tapping, bugle head.
6. Finishing System —(Not shown)—Paper tape embedded in joint compound over joints between wallboard. Fastener heads and corner beads covered with compound. As an alternate, nom 2/32 in. thick veneer plaster may be applied to the entire surface of gypsum wallboard.
*Bearing the UL Classification Marking

Design No. L528
Unrestrained Assembly Rating - 1 Hr.
Finish Rating - 22 Min.



1. Flooring Systems—The finish flooring may consist of any one of the following systems:

System No. 1
Finish Flooring—Nom 23/32 in. thick plywood or oriented strand board (OSB), min grade "Underlayment" or "Single Floor" or "APA Rated Sturd-I-Floor 16oc" panels marked Exposure 1 or exterior glue and conforming with PS 1-66 specifications; or, nonveneer APA rated sheathing panels per APA specifications PRP-108. Face grain of plywood or strength axis of OSB panels to be perpendicular to framing members. Adhesive applied to framing members and No. 6d ringed shank nails. Adhesive applied at 1/8 in. diam bead to top chord of trusses and grooved edges of plywood or panels. Nails spaced 12 in. OC along each truss. As an option, lightweight insulating concrete with Perlite or Vermiculite Aggregate* or gypsum concrete, may be cast on the flooring. Min thickness of insulating concrete shall be 3/4 in. no limit on thickness. A trim plastic or paper vapor retarder may be placed on plywood prior to pouring the concrete.
See Perlite Aggregate (I999) and Vermiculite Aggregate (CIZX)categories for names of Classified companies.

System No. 2
Finish Flooring—Floor Topping Mixture*—4.5 gal of water to 80 lb bag of floor topping mixture to 1.9 cu ft of sand. Compressive strength to be 1100 psi min. Thickness to be 3/4 in. min.
   Hacker Industries, Inc.—Firm-Fill, Firm-Fill 2000, Firm-