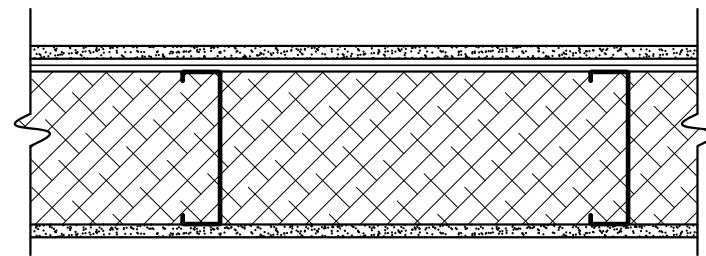


WALL TYPES

W1 NEW CORRIDOR WALL ASSEMBLY - 1 HOUR (1/2 HOUR REQ'D) UL Design U451 - 1 HOUR FIRE - 54 STC SOUND Sound Test: RAL TL83-216, 47 MTC

- Studs** - Channel-shaped, 6 in. 22 guage galvanized steel studs. Max stud spacing 24 in. OC. Studs to be cut 1 in. less than assembly height.
- Floor and Ceiling Runners (Not Shown)** - Channel-shaped runners, 6 in. wide by 1-1/4 in. deep, fabricated from No. 22 MSG galv steel. Attached to floor and ceiling with fasteners, 24 in. OC, max.
- Resilient Channel** - 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long Type S-12 pan head steel screws.
- Insulation, Fiber, Dense packed Dry** - Dense pack cellulose material to completely fill the cavity. Gypsum board panels installed on both faces of the wall with a gap left at the top of one side OR Gypsum board applied to one side of the wall and mesh net applied to the other side with finish gypsum board installed over mesh after dense pack insulation is complete. GC/CM to make determination of means and methods. Testing will be performed to ensure proper density and that entire cavity is filled especially around and below electrical boxes and switches. Nominal dry density of 3.0 lb/ft³.
- Gypsum Board** - 5/8 in. thick, 4 ft wide. Screw attached one side to resilient channels with 1 in. long, Type S steel screws spaced 12 in. OC. Wallboard on direct attached side secured to studs with 1 in. long Type S-12 steel screws spaced 12 in. Wallboard joints oriented vertically, located over studs.
- Joint Tape and Compound** - Vinyl, dry or premixed joint compound, applied to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. Joints reinforced.
- Caulking and Sealants** - (Not shown) - A bead of acoustical sealant applied around the partition perimeter for sound control.

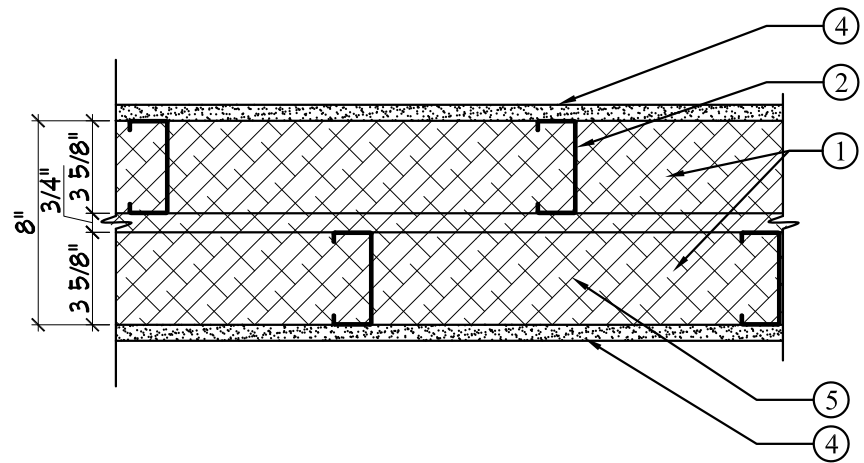


W1 1 HOUR NEW CORRIDOR WALL

NOTE:
WALL, INCLUDING ALL LAYERS OF GYPSUMBOARD
MUST BE BUILT UP TO UNDERSIDE OF RATED FLOOR ABOVE

W2 1 HOUR WALL ASSEMBLY - 60-64 STC DESIGN NUMBER U.L. U493 (G.A. File WP5006 PROPRIETARY 1 HOUR FIRE) STC RATING - 60-64 Sound Test: USG STC-450817, 8-11-05 Fire Test: UL R1319, 96NK31548, 10-21-96 UL Design U493

- Floor and Ceiling Runners** - Channel shaped, attached to floor and ceiling in two rows, a min 3/4 in. apart, with steel fasteners spaced 24 in. OC. Runners fabricated from min No. 22 MSG galv steel, 1-1/4 in. deep and 3-5/8 in. wide.
- Steel Studs** - Channel shaped, supplied with cutouts, friction-fitted into floor and ceiling runners and spaced a max 24 in. OC. Studs cut 1/2 in. less than assembly height and evenly staggered between the two rows of floor and ceiling runners. Studs fabricated from min No. 22 MSG galv steel, min 3-5/8 in. wide by 1-5/8 in. deep with 3/8 in. folded back return flange legs.
- Lateral Bracing** - (Not shown) - Right angle-shaped, supplied with notches spaced 12, 16, or 24 in. OC, friction-fitted to the cutouts in steel studs, supplied in 7/8 in. by 7/8 in. by 50 in. lengths. Lateral bracing bars fabricated from min. 20 MSG galvanized steel. The bracing shall meet the 1996 Edition of the American Iron and Steel Institute (AISI) "Specification for the Design of Cold-Formed Steel Structural Members."
- Gypsum Board** - Nom 5/8 in. thick, 4 ft. wide, gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Single layer installed on each side of the steel studs. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints need not be backed by framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.
- Insulation, Fiber, Dense packed Dry** - Dense pack cellulose material to completely fill the cavity. Gypsum board panels installed on both faces of the wall with a gap left at the top of one side OR gypsum board applied to one side of the wall and mesh net applied to the other side with finish gypsum board installed over mesh after dense pack insulation is complete. GC/CM to make determination of means and methods. Testing will be performed to ensure proper density and that entire cavity is filled especially around and below electrical boxes and switches. Nominal dry density of 3.0 lb/ft³.
- Joint Tape and Compound** - (Not Shown) - Outer layer joints covered with joint compound and paper or mesh tape. Screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.
- Mesh Netting** - (Not shown) - Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

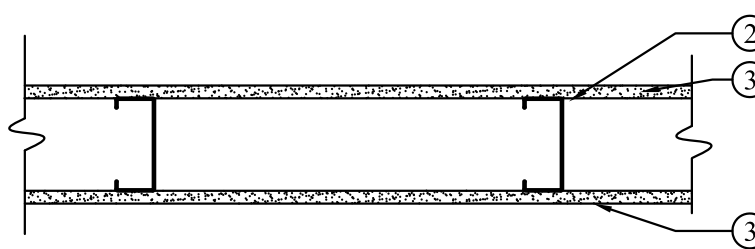


W2 1 HOUR DWELLING UNIT SEPARATION

NOTE:
WALL, INCLUDING ALL LAYERS OF GYPSUMBOARD
MUST BE BUILT UP TO UNDERSIDE OF RATED FLOOR ABOVE

W3 UNRATED PARTITION WALL ASSEMBLY

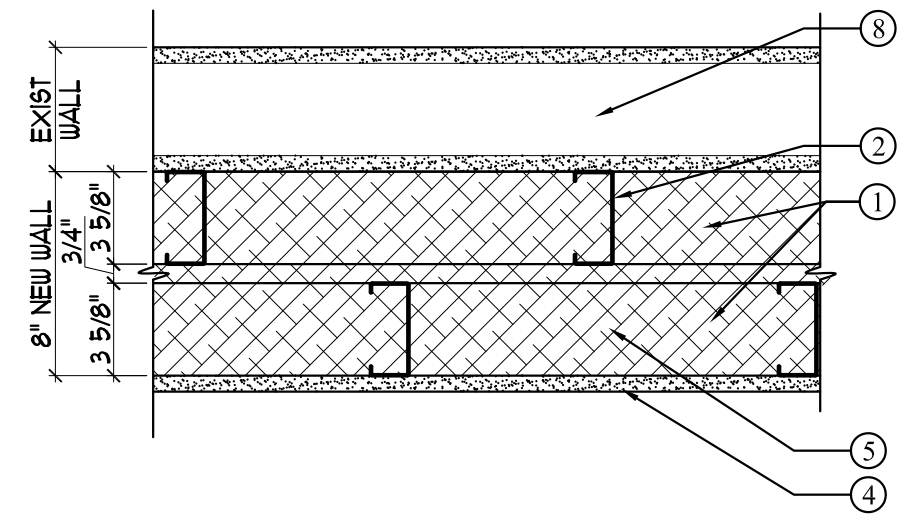
- Floor and Ceiling Runners** - Channel shaped, attached to floor and ceiling in two rows, a min 1 in. apart, with steel fasteners spaced 24 in. OC. Runners fabricated from min No. 25 MSG galv steel, 1-1/4 in. deep and 3-5/8 in. wide or 6 in. wide in plumbing walls.
- Steel Studs** - Channel shaped, supplied with cutouts, friction-fitted into floor and ceiling runners and spaced a max 24 in. OC. Studs cut 1/2 in. less than assembly height and evenly staggered between the two rows of floor and ceiling runners. Studs fabricated from min No. 25 MSG galv steel, min 3-5/8 in. wide by 1-5/8 in. deep with 3/8 in. folded back return flange legs.
- Gypsum Board** - 5/8 in. thick, 4 ft wide, attached to wood studs with Type S steel screws spaced 8 in. OC, along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly 48 in. OC.
- Joint Tape and Compound** - Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.



W3 TYPICAL UNRATED INTERIOR PARTITION

W4 1 HOUR WALL ASSEMBLY - 60-64 STC DESIGN NUMBER U.L. U493 (G.A. File WP5006 PROPRIETARY 1 HOUR FIRE) STC RATING - 60-64 Sound Test: USG STC-050817, 8-11-05 Fire Test: UL R1319, 96NK31548, 10-21-96 UL Design U493

- Floor and Ceiling Runners** - Channel shaped, attached to floor and ceiling in two rows, a min 3/4 in. apart, with steel fasteners spaced 24 in. OC. Runners fabricated from min No. 22 MSG galv steel, 1-1/4 in. deep and 3-5/8 in. wide.
- Steel Studs** - Channel shaped, supplied with cutouts, friction-fitted into floor and ceiling runners and spaced a max 24 in. OC. Studs cut 1/2 in. less than assembly height and evenly staggered between the two rows of floor and ceiling runners. Studs fabricated from min No. 22 MSG galv steel, min 3-5/8 in. wide by 1-5/8 in. deep with 3/8 in. folded back return flange legs.
- Lateral Bracing** - (Not shown) - Right angle-shaped, supplied with notches spaced 12, 16, or 24 in. OC, friction-fitted to the cutouts in steel studs, supplied in 7/8 in. by 7/8 in. by 50 in. lengths. Lateral bracing bars fabricated from min. 20 MSG galvanized steel. The bracing shall meet the 1996 Edition of the American Iron and Steel Institute (AISI) "Specification for the Design of Cold-Formed Steel Structural Members."
- Gypsum Board** - Nom 5/8 in. thick, 4 ft. wide, gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Single layer installed on each side of the steel studs. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints need not be backed by framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.
- Insulation, Fiber, Dense packed Dry** - Dense pack cellulose material to completely fill the cavity. Gypsum board panels installed on both faces of the wall with a gap left at the top of one side OR gypsum board applied to one side of the wall and mesh net applied to the other side with finish gypsum board installed over mesh after dense pack insulation is complete. GC/CM to make determination of means and methods. Testing will be performed to ensure proper density and that entire cavity is filled especially around and below electrical boxes and switches. Nominal dry density of 3.0 lb/ft³.
- Joint Tape and Compound** - (Not Shown) - Outer layer joints covered with joint compound and paper or mesh tape. Screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.
- Mesh Netting** - (Not shown) - Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.
- Existing Wall** - Existing partition wall between office tenants.

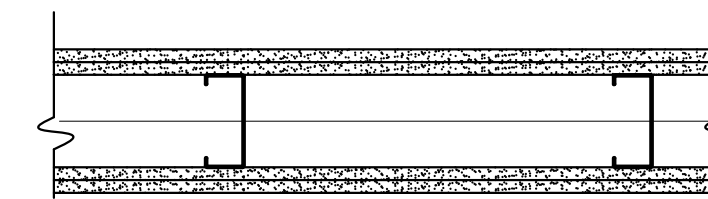


W4 1 HOUR DWELLING UNIT SEPARATION

NOTE:
WALL, INCLUDING ALL LAYERS OF GYPSUMBOARD
MUST BE BUILT UP TO UNDERSIDE OF RATED FLOOR ABOVE

W5 STAIRCASE INFILL WALL ASSEMBLY - 2 HOUR GA FILE NO. WP1450 - 2 HOUR FIRE - 60-64 STC SOUND Sound Test: RAL TL07-359, 11-8-07 Fire Test: UL R3660, 07NK14500, 8-16-07 UL DESIGN V450 & V486

Base layer - 5/8 in. thick proprietary Type X gypsum wallboard or gypsum veneer base applied at right angles to each side of 3-5/8" proprietary steel studs 24" oc with 1" Type S drywall screws 16" oc. Face layer - 5/8" proprietary Type X gypsum wallboard or gypsum veneer base applied at right angles to studs with 1-5/8" Type S drywall screws 16" o.c. Face layer horizontal joints offset not less than 12" from base layer horizontal joints. Horizontal joints on opposite sides need not be staggered or backed.



W5 2 HOUR INFILL WALL IN STAIRCASE

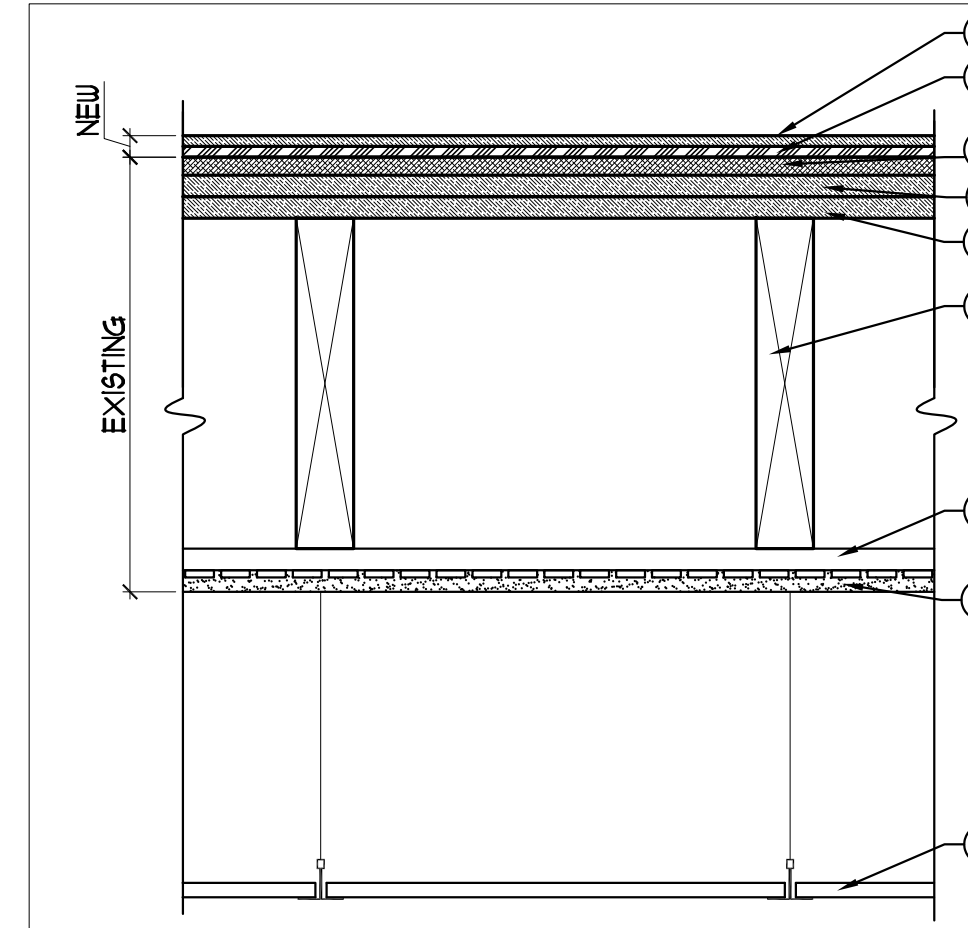
FLOOR TYPES

F1 THIRD FLOOR SYSTEM - 1 HOUR (1 HOUR REQUIRED) IBC TABLE 720.1(3) - 13 with min 5/8" Ceiling STC RATING = 50 STC (ASSUMED)

The assembly is similar to the system tested by Owens/Corning Fiberglas test OCF F-21-68, OCF FI-24-68, 1968 16f (see California Office of Noise Control -section 2.1.2.1.2.2) The tested assembly has a STC of 42 but the tested assembly has only 1/2" Gyboard Ceiling whereas the proposed assembly has 3/4" Plaster on Lath Ceiling with an ACT Suspended ceiling below and the tested assembly has a floor of only 5/8" Plywood with 1/4" Particle Board and 1/2" Wood flooring over whereas the proposed assembly has a floor of 2" of Wood Plank flooring with 5/8" Underlayment, 1/2" Homasote SoundBarrier and Engineered Wood Flooring over.

It is because of the flooring increase from a 3 layer 1 3/8" floor to a 5 layer 3 5/8" floor combined with the 1/2" gyboard ceiling increased to a 3/4" plaster ceiling with suspended ACT below that we assume the STC will be increased to at least 50 STC.

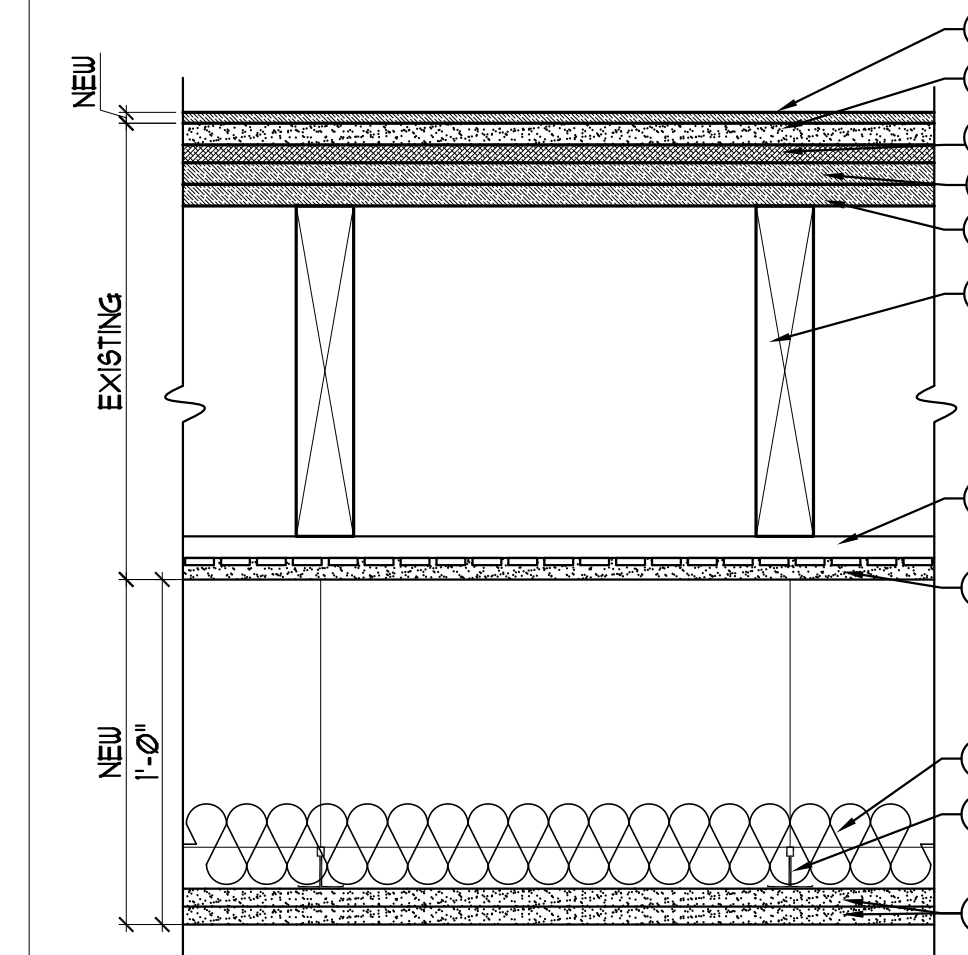
- Subflooring** - Existing 1" plank wood subfloor.
- Underlayment** - Existing 5/8 inch plywood
- Joists** - Existing 3" x 11 1/2" wood floor joists at 16" OC.
- Strapping** - Existing 1" x 3" wood strapping.
- Plaster** - Existing 3/4" Plaster on wood lath ceiling.
- Suspended Ceiling** - ACT ceiling suspended in metal track system (ADDED)
- Sound barrier** - 1/2" Homasote 440 SoundBarrier (ADDED)
- Floor Finish** - Engineered wood floor (ADDED)



F2 FOURTH FLOOR SYSTEM - 1 HOUR (1 HOUR REQUIRED) EXISTING FLOOR = 1 HR (IBC TABLE 720.1(3) - 13 with min 5/8" Ceiling) OR NEW ADDED CEILING = 1 HR (2 LAYER 5/8" Ceiling Membrane based on GA File Nos. FC 5406 and RC 2601) STC RATING = 50 STC (ASSUMED)

The assembly is similar to the system tested by Riverbank Acoustical Labs test TL75-103, IN75-7, IN75-6, 1975 16f (see California Office of Noise Control -section 2.1.2.1.2.1.8) The tested assembly has a STC of 49 but the tested assembly has only 5/8 T&G plywood over the joists and the proposed assembly has 5/8" plywood underlayment PLUS 2 layers 3/4" Wood Plank, 3/4" gycrete topping and 1 layer Hardwood Flooring. It is because of the additional 4 layers of flooring that we assume the STC will go up from 49 to at least STC 50.

- Subflooring** - Existing 3/4" plank wood subfloor.
- Underlayment** - Existing 5/8 inch plywood
- Joists** - Existing 3" x 11 1/2" wood floor joists at 16" OC.
- Strapping** - Existing 1 1/4" x 3" wood strapping.
- Plaster** - Existing 3/4" Plaster on wood lath ceiling.
- Gycrete** - Existing 3/4" gycrete
- Floor Finish** - Engineered wood floor
- Insulation** - 3 1/2" thick Sound Attenuation Blanket (ADDED)
- Suspension System** - Metal track 'Chicago' System (ADDED)
- Gypsumboard** - 2 layers 5/8" Gypsumboard ceiling (ADDED)



2009 INTERNATIONAL BUILDING CODE
SECTION 713.4.11.2 THROUGH-PENETRATION FIRESTOP SYSTEM
Through penetrations shall be protected by an approved through-penetration firestop system installed and tested in accordance with ASTM E 814 or UL 1479, with a minimum positive pressure differential of 0.01 inch of water (2.49 Pa). The system shall have an F rating/t rating of not less than 1 hour but not less than the required rating of the floor penetrated.

Exception: Floor penetrations contained and located within the cavity of a wall above or below the floor do not require a T rating.

2009 INTERNATIONAL BUILDING CODE
SECTION 713.4.12 MEMBRANE PENETRATIONS
penetrations of membranes that are part of a horizontal assembly shall comply with Section 713.4.11.2. Where floor/ceiling assemblies are required to have a fire-resistance rating, recessed fixtures shall be installed such that the required fire resistance will not be reduced.

SEE ATTACHED FIRESTOPPING AND SMOKE SEAL SPECIFICATION

