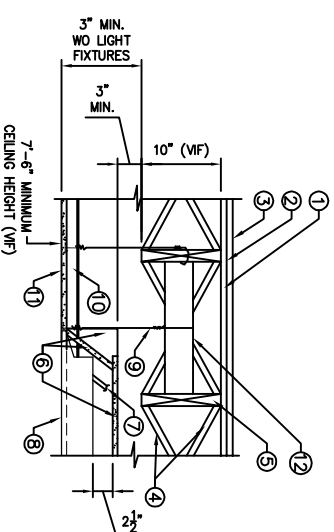


FLOOR/CEILING ASSEMBLY A
BUSINESS / ASSEMBLY TO RESIDENTIAL FLOOR/CEILING ASSEMBLY
Based on UL DESIGN No. L211
(2 HOUR ASSEMBLY RATING)

1. Finish Flooring —1 by 4 in., T&G, laid perpendicular to joists, or 19/32 in. plywood wood structural panels, min grade "Underlayment". Face grain of plywood to be perpendicular to joists with joints staggered. (Existing to be determined VWF)
2. Building Paper —Commercial rosin-sized, 0.010 in. thick.
3. Subflooring —Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. (Existing to be determined VWF)
4. Cross Bridging —1 by 3 in.
5. Wood Joists —2 by 10 in., spaced 16 in. OC, freestopped. (Existing to be determined VWF)
6. Existing wood lathe and plaster (VWF) or 5/8" thick gypsum wallboard (VWF). Fill all holes and gaps with solid plaster or ZHR fire rated soffit. Typical.
7. Wood Hanger Block —2 by 4 in., installed between and perpendicular to wood joists. Located to support duct suspension straps and hanger wire 1-1/2 in. below subflooring at sides of light fixtures wherever duct straps and hanger wires are located between wood joists
8. Batts and Blankets —Nom 24 in wide roll by 6 in thick glass fiber insulation, installed on top of suspension system with long dimension perpendicular to cross tees. Sides of unraveled bolts are butted together while the ends overlap approx. 6 to 12 in.
9. Hanger Wire Clip —No. 20MSG (min. 0.034 in. thick) galv steel two-hole pipe strap for 3 in electrical thin wall conduit. Oriented diagonally to the upper steel framing members and screws attached to the flange of steel framing members through wallboard with steel screws. Clip locations to coincide with upper steel framing members.
- Alternate Hanger Wire Clip —Made of 0.034 in. thick galv steel, 5/8 in. wide by 2-11/16 in. overall length, with center section formed down 1/2 in. to allow passage of hanger wire. Oriented diagonally to the upper steel framing members and screw-attached to the flange of the steel framing members through wallboard with steel screws (Item 11). Clip locations to coincide with hanger wires (Item 9) supporting the upper steel framing members.
10. Steel Framing Members* —The steel framing members are provided with either steel or aluminum caps on the exposed flange, depending upon the steel framing member type. When aluminum capped members are used, additional hanger wires are required along main runners (in addition to those required under Item 9) spaced 24 in OC i.e., one wire at each intersection of main runners and cross tees. Main runners nom 12 ft long, spaced 48 in OC along cross tees. Cross tees, nom 4 ft long, installed perpendicular to main runners and spaced 24 in OC. When nom 1 by 4 ft light fixtures are used, additional 4 ft long cross tees installed along length centerline of 2 by 4 ft grid modules; a field-cut nom 12 by 48 in lay-in panel, bearing a min of 3/8 in on suspension members, fills in the remainder of such modules. When nom 20 by 48 in light fixtures and air terminal units are used, additional 4 ft long cross tees are installed parallel with and 2 in from the 4 ft cross tees in the 2 by 4 ft grid module where 20 by 48 in light fixture is to be installed. The end tabs of the 4 ft long cross tees forming the sides of the 20 by 48 in grid module are spaced 24 in from the origin runner. The field-punched routes in the webs of each origin runner. The field-punched routes must be identical to factory-punched routes and shall be effected using a tool designed for that purpose and provided by the steel framing member manufacturer — For 24 by 48 in lay-in panels.
15. Steel Framing Members* —The steel framing members are provided with either steel or aluminum caps on the exposed flange, depending upon the steel framing member type. When aluminum capped members are used, additional hanger wires are required along main runners (in addition to those required under Item 9) spaced 24 in OC i.e., one wire at each intersection of main runners and cross tees. Main runners nom 12 ft long, spaced 48 in OC along cross tees. Cross tees, nom 4 ft long, installed perpendicular to main runners and spaced 24 in OC. When nom 1 by 4 ft light fixtures are used, additional 4 ft long cross tees installed along length centerline of 2 by 4 ft grid modules; a field-cut nom 12 by 48 in lay-in panel, bearing a min of 3/8 in on suspension members, fills in the remainder of such modules. When nom 20 by 48 in light fixtures and air terminal units are used, additional 4 ft long cross tees are installed parallel with and 2 in from the 4 ft cross tees in the 2 by 4 ft grid module where 20 by 48 in light fixture is to be installed. The end tabs of the 4 ft long cross tees forming the sides of the 20 by 48 in grid module are spaced 24 in from the origin runner. The field-punched routes in the webs of each origin runner. The field-punched routes must be identical to factory-punched routes and shall be effected using a tool designed for that purpose and provided by the steel framing member manufacturer — For 24 by 48 in lay-in panels.
16. Acoustical Material —Nom 24 by 48 in. by 5/8 in thick lay-in panels. Border panels supported at walls by min 0.016 in. thick pointed steel angle with 7/8 in. legs or min. 0.016 in. thick pointed steel channel with a 1 by 1-9/16 by 3/8 in. profile. Armstrong Cortega square lay in fire resistive panels ASTM E84 surface burning characteristics, ASTM E1264 classification, Type III, Form 2, Pattern C D, Flame Spread Index 25 or less (UL labeled)] Smoke Developed Index 50 or less (UL labeled)]



FLOOR/CEILING ASSEMBLY B
KITCHEN TO STORAGE ROOM FLOOR/CEILING ASSEMBLY
Based on UL DESIGN No. L209
(1 HOUR ASSEMBLY RATING)

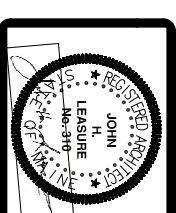
1. Finish Flooring —1 by 4 in., T&G, laid perpendicular to joists, or 19/32 in. plywood wood structural panels, min grade "Underlayment". Face grain of plywood to be perpendicular to joists with joints staggered. (Existing 1x4-VWF)
2. Building Paper —Commercial rosin-sized, 0.010 in. thick.
3. Subflooring —Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. (Existing 1x4-VWF)
4. Cross Bridging —1 by 3 in.
5. Wood Joists —2 by 10 in., spaced 16 in. OC, freestopped.
6. Fixture Protection —Acoustical Material —1/2 in. thick cut into pieces to form a 3 sided enclosure, tapered in cross-section, approx 1/2 in. longer and wider than the fixture with sufficient depth to provide at least 2-1/2 inch clearance between the top of the fixture and enclosure. The pieces are glued together by 6d nails spaced 12 in. OC min. (S)=Surface Perforations.
7. Flexible Steel Conduit —(Bearing the UL Listing Mark).
8. 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. Fixtures and ballasts must be considered for these ambient temperature conditions before installation.
9. Hanger Wire —Galv steel 12 SNG min diam. Spaced not more than 48 in OC along main runners adjacent to junctions of main runners and cross tees. Additional hanger wires required at all four corners of light fixtures, at midspan of cross tees adjacent to light fixtures, air duct outlets and at main runner splice locations. Hanger wire supported from 8d common nails located 1-1/2 in. below subflooring.
10. Steel Framing Members* —Main runner, 12 ft long, spaced 4 ft OC. Cross tees nom 4 ft long, installed perpendicular to main runners and spaced 2 ft OC. (Armstrong precast XL Fire Guard #8 exposed tee-the resistive with prenotched expansion relief)
11. Acoustical Material —1/4 in. wide, formed of 24 MSG spring steel and spaced 2 ft O.C. along cross tees. (S)=Surface Perforations. [Armstrong Cortega square lay in fire resistive panels ASTM E84 surface burning characteristics, ASTM E1264 classification, Type III, Form 2, Pattern C D, Flame Spread Index 25 or less (UL labeled)] Smoke Developed Index 50 or less (UL labeled)]
12. Wood Hanger Block —2 by 4 in., installed between and perpendicular to wood joists. Located to support duct suspension straps and hanger wire 1-1/2 in. below subflooring at sides of light fixtures wherever duct straps and hanger wires are located between wood joists

CEILING TYPES

- NOTES:
1. ALL HOLES, GAPS AND PENETRATIONS IN CEILINGS AND WALLS SHALL BE SEALED WITH 3M FIRE BARRIER SEALANT 150+ (MIN. 2 HOUR RATED) INCLUDING PEX PIPING CHASES.

2. ALL EXISTING WOOD/METAL LATHE AND PLASTER SURFACES ON FIRE RATED WALLS AND CEILINGS SHALL BE PATCHED, OPENINGS & HOLES FILLED AND ALL PENETRATIONS SHALL BE SEALED WITH FIRE RATED SEALANT (SEE NOTE 1) TP.
3. CONTRACTOR SHALL CONFIRM EXISTING CEILING STRUCTURE IS CAPABLE OF SUSTAINING ADDITIONAL WEIGHT OF CEILING MATERIALS AS DESCRIBED. CONSULTATION WITH PROFESSIONAL STRUCTURAL ENGINEER (NOT IN ANY CONTRACT) MAY BE NECESSARY TO VERIFY STRUCTURAL STABILITY.

- NOTES
1. See Drawing A1 for General Notes, especially note 22 regarding existing interior wall and ceiling surface patching and sealing requirements.



REV.	DATE	STATUS
2-04-18	PERMIT SUBMISSION	
2-12-18	PERMIT RESUBMISSION	

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612 CONGRESS STREET
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CEILING TYPES