

UL SYSTEM NO. HW-D-0964

TOP OF WALL JOINT : GYPSUM WALL ASSEMBLY

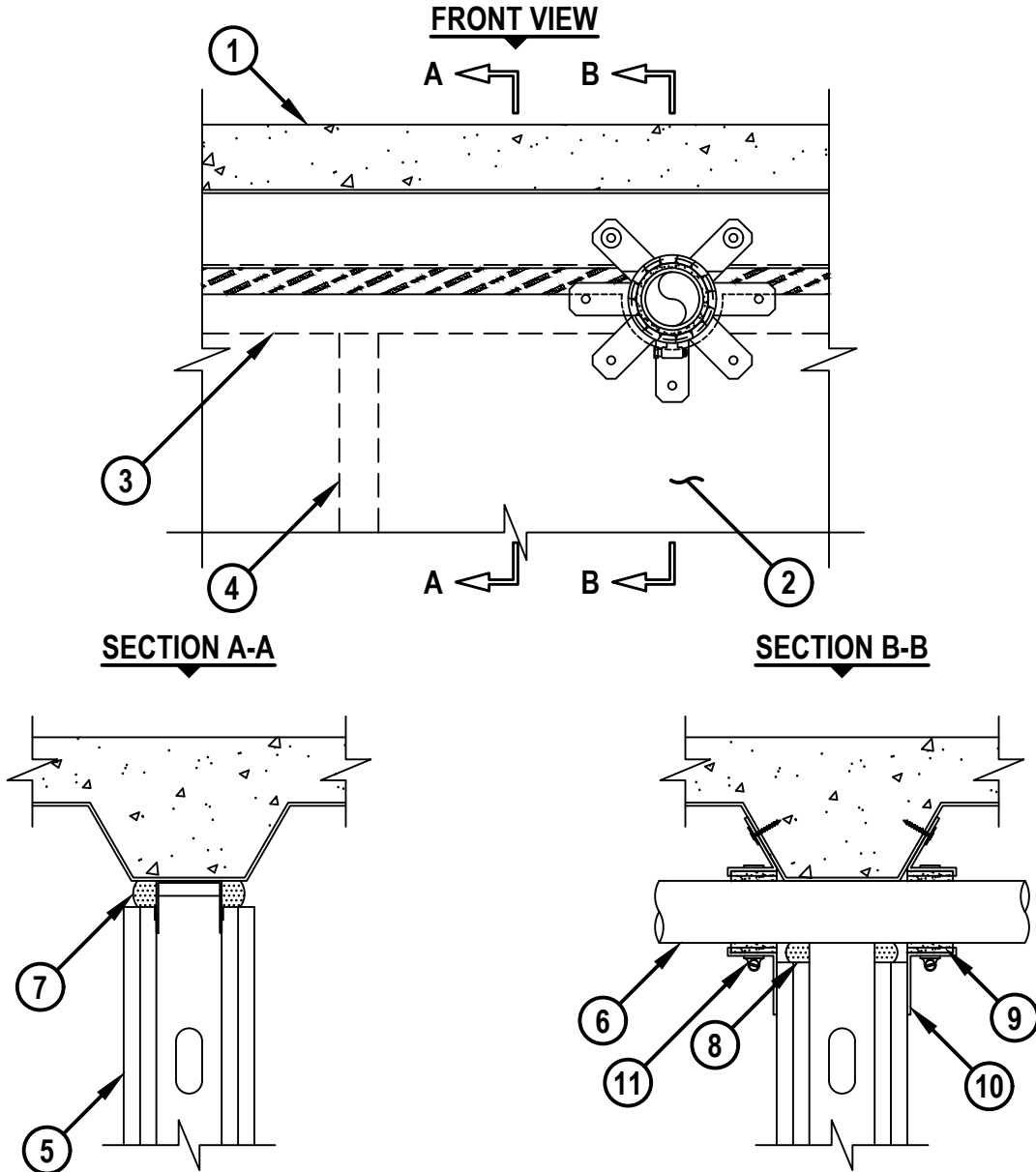
ASSEMBLY RATING = 1-HR. OR 2-HR.

L-RATING AT AMBIENT = LESS THAN 2.63 CFM / LIN FT

L-RATING AT 400°F = LESS THAN 2.33 CFM / LIN FT

CLASS II MOVEMENT CAPABILITIES - 25% COMPRESSION OR EXTENSION OR
25% COMPRESSION ONLY

HW-D-0964b.091322



HILTI, Inc.
Plano, Texas USA (800) 879-8000

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Scale	9/64" = 1"
Date	Mar. 06, 2023

Drawing No.
**HWD
0964c**

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1. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" THICK) OVER METAL DECKING ASSEMBLY (UL/cUL CLASSIFIED).
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN). THE HOURLY RATING OF THE JOINT SYSTEM IS DEPENDENT UPON THE HOURLY RATING OF THE WALL ASSEMBLY.
3. CEILING RUNNER (MIN. 25 GA., FLANGE HEIGHT OF CEILING RUNNER SHALL BE MINIMUM 1-1/4" GREATER THAN MAXIMUM EXTENDED JOINT WIDTH) FASTENED TO UNDERSIDE OF FLOOR WITH MASONRY ANCHORS OR STEEL FASTENERS (SPACED MAXIMUM 24" OC) (SEE NOTE NO. 3 BELOW).
4. STEEL STUDS (MIN. 2-1/2" WIDE) CUT 3/4" TO 1" LESS IN LENGTH THAN ASSEMBLY HEIGHT WITH TOP NESTED IN CEILING RUNNER WITHOUT ATTACHMENT.
5. 5/8" OR 1-1/4" THICKNESS GYPSUM WALLBOARD AS SPECIFIED IN THE INDIVIDUAL UL DESIGN. TOP ROW OF SCREWS SHALL BE INSTALLED INTO STUD 2-1/2" TO 4-1/2" BELOW THE BOTTOM EDGE OF THE CEILING RUNNER.
6. [OPTIONAL] ONE OF THE FOLLOWING PENETRATING ITEMS MAY BE INSTALLED PERPENDICULAR TO WALL AGAINST VALLEY OF METAL DECK (SEE NOTE NO. 2 BELOW) :
 - A. MAXIMUM 2" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).
 - B. MAXIMUM 2" NOMINAL DIAMETER CPVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).
 - C. MAXIMUM 2" NOMINAL DIAMETER CPVC PLASTIC PIPE (SDR 13.5) (CLOSED PIPING SYSTEM ONLY).
 - D. MAXIMUM 2" NOMINAL DIAMETER RIGID NONMETALLIC CONDUIT (SCHEDULE 40 PVC) INSTALLED IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NFPA NO. 70).
7. HILTI CFS-TTS MD OS OR CFS-TTS MD 600 FIRESTOP TOP TRACK SEAL INSTALLED OVER CEILING RUNNER PRIOR TO ATTACHMENT TO UNDERSIDE OF STEEL FLOOR UNIT IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS. TOP TRACK SEAL TO BE COMPRESSED MIN 1/2" AT PRODUCT SEAMS. SEAMS AT PENETRATION OPENING TO BE BUTTED AGAINST PENETRATING ITEM (ITEM 6).
8. [REQUIRED WHEN ITEM 6 IS USED] HILTI CFS-TTS MD OS OR CFS-TTS MD 600 FIRESTOP TOP TRACK SEAL INSTALLED WITHIN ANNULAR SPACE AROUND PENETRATING ITEM IN A SINGLE PIECE, WITH ENDS BUTTING TIGHTLY TO BOTTOM OF METAL DECK. THE FLAP OF TOP TRACK SEAL IS TO OVERLAP THE GYPSUM BOARD AND BE HELD IN PLACE WITH TWO STAPLES OR SCREWS EQUALLY SPACED.



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9. TWO LAYERS OF HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) INSTALLED AROUND THE PENETRANT CONTINUOUSLY WITH END HELD IN PLACE WITH TAPE.
10. HILTI 1-3/4" RETAINING COLLAR INSTALLED OVER WRAP STRIPS OVERLAPPING MINIMUM 1", TWO ANCHOR TABS (ONE ON EACH SIDE OF PENETRATING ITEM) BENT TOWARD UNDERSIDE OF METAL DECK AND SECURED TO FLOOR WITH MIN 1-1/4" LONG CONCRETE SCREW ANCHORS WITH MIN 3/4" STEEL WASHERS. REMAINING TABS TO OVERLAP ONTO GYPSUM WALL WITHOUT ATTACHMENT.
11. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE CLAMP FASTENED AT THE MID HEIGHT OF THE RETAINING COLLAR.

NOTES : 1. ALLOWABLE JOINT WIDTHS TO BE DETERMINED AS FOLLOWS :

A. TO ACCOMMODATE MAX 25% COMPRESSION OR EXTENSION, MAX WIDTH OF JOINT = 1".

B. TO ACCOMMODATE MAX 25% COMPRESSION ONLY, MAX WIDTH OF JOINT = 1-1/4".

2. WHEN PENETRATING ITEM (ITEM 6) IS PRESENT, THE CEILING RUNNER IS TO BE TERMINATED 1/4" FROM EACH SIDE OF PENETRATING ITEM AND SHALL BE SECURED STEEL DECK AT THE END. IN ADDITION, THE GYPSUM BOARD IS TO CONTOUR AROUND THE PENETRATING ITEM SO THAT THE ANNULAR SPACE IS 3/4".

3. AS AN ALTERNATE TO CEILING RUNNER IN ITEM 3, SLOTTED CEILING RUNNERS MAY BE USED. CONSULT THE UL FIRE RESISTANCE DIRECTORY FOR APPROVED MANUFACTURERS.



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