

UL SYSTEM NO. HW-D-0945

TOP OF WALL JOINT : GYPSUM WALL ASSEMBLY

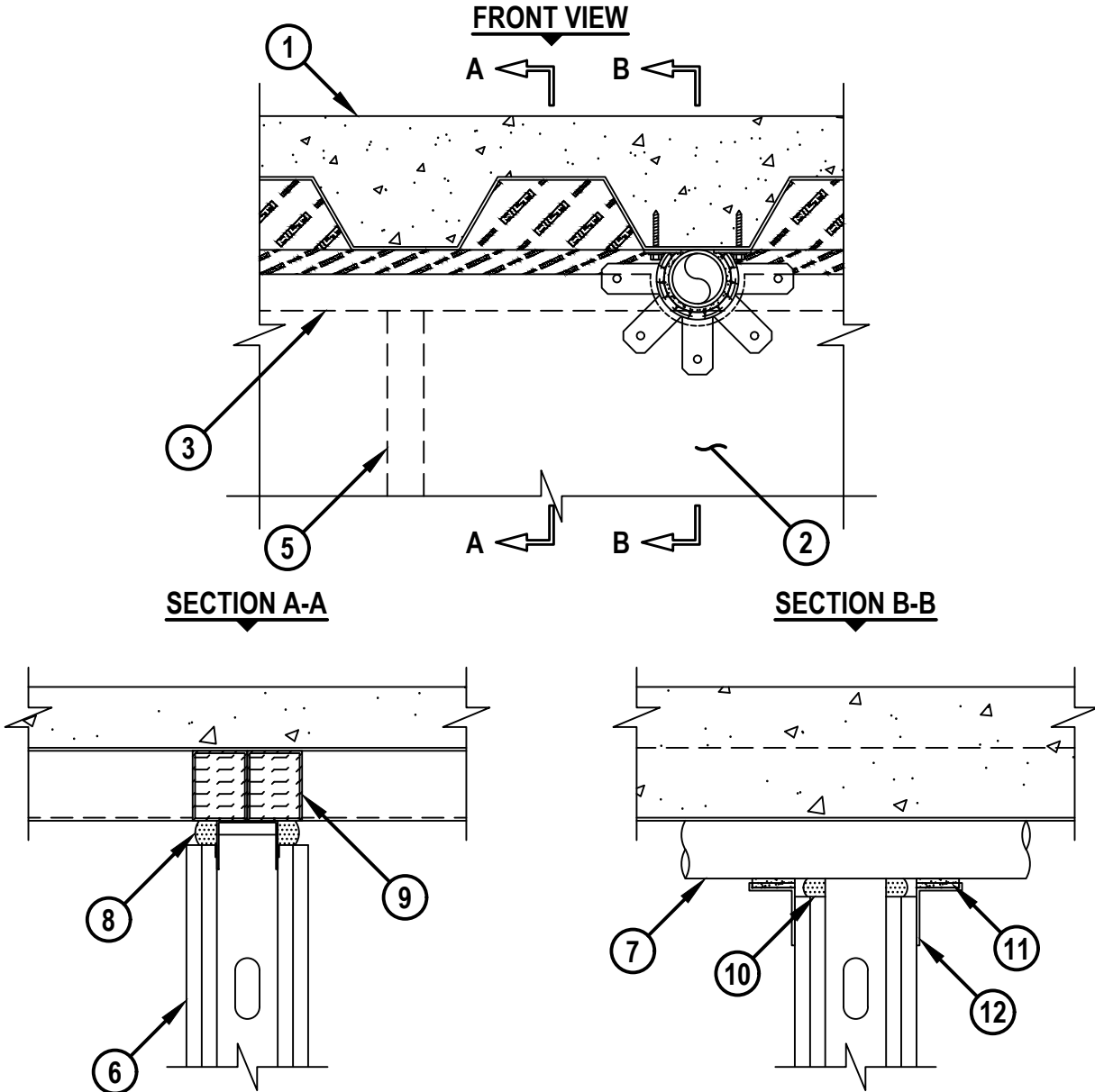
ASSEMBLY RATING = 1-HR. OR 2-HR.

L-RATING AT AMBIENT = LESS THAN 2.63 CFM / LIN FT (SEE NOTE NO. 5 BELOW)

L-RATING AT 400°F = LESS THAN 2.33 CFM / LIN FT (SEE NOTE NO. 5 BELOW)

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

HWD0945b.030623



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

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| Sheet | 1 of 3 |
| Scale | 9/64" = 1" |
| Date | Mar. 06, 2023 |

Drawing No.
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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. 4 BELOW).
4. [OPTIONAL - NOT SHOWN] WHEN SPRAY-APPLIED FIREPROOFING IS USED, CEILING RUNNER MAY BE SECURED TO DECK WITH Z-SHAPED CLIPS (MIN. 20 GA.) WITH THE FOLLOWING DIMENSIONS : MINIMUM 1" LONG, BUT NOT EXCEEDING THE WIDTH OF THE WALL, BY 1-1/2" OR 2" LONG UPPER AND LOWER LEGS. SUPPORT CLIPS SPACED MAXIMUM 24" OC.
5. STEEL STUDS (MIN. 3-1/2" WIDE) CUT 3/4" TO 1" LESS IN LENGTH THAN ASSEMBLY HEIGHT WITH TOP NESTED IN CEILING RUNNER WITHOUT ATTACHMENT.
6. 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.
7. [OPTIONAL - NOT APPLICABLE WHEN SPRAY-APPLIED FIREPROOFING IS USED] ONE OF THE FOLLOWING PENETRATING ITEMS MAY BE INSTALLED PERPENDICULAR TO WALL AGAINST VALLEY OF METAL DECK (SEE NOTE NO. 3 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 COD (NFPA NO. 70).
8. 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 7).



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- 9. HILTI CFS-TTS MD P [1.5, 2, OR 3] FIRESTOP TOP TRACK PLUG (PLUG SIZE TO MATCH DECK HEIGHT) TO BE FRICTION FIT IN FLUTES ABOVE THE CEILING RUNNER FLUSH WITH THE OUTER SURFACE OF THE HILTI CFS-TTS MD TOP TRACK SEAL ON BOTH SIDES OF WALL. WHERE A PARTIAL FLUTE EXISTS, THE FLUTE PLUG CAN BE CUT TO FIT THE PARTIAL FLUTE WITH THE CUT SIDE OF THE FLUTE PLUG SEALED WITH ALUMINUM FOIL TAPE (SEE NOTE NO. 2 BELOW).
- 10. [REQUIRED WHEN ITEM 7 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.
- 11. TWO LAYERS OF HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) INSTALLED IN A U-SHAPED FASHION WITH ENDS BUTTING UP AGAINST BOTTOM OF THE FLOOR.
- 12. HILTI 1-3/4" RETAINING COLLAR INSTALLED OVER WRAP STRIP. TWO ANCHOR TABS (ONE ON EACH SIDE OF PENETRATING ITEM) BENT TOWARD UNDERSIDE OF METAL DECK AND SECURED TO FLOOR WITH MIN 3/4" LONG CONCRETE SCREW ANCHORS WITH MIN. 3/4" STEEL WASHERS. REMAINING TABS TO OVERLAP ONTO GYPSUM WALL WITHOUT ATTACHMENT.

- 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. STEEL FLOOR UNITS MAY BE SPRAYED WITH UL CLASSIFIED MONOKOTE TYPE MK-6/HY OR MK-10HB (MANUFACTURED BY GCP APPLIED TECHNOLOGIES) OR CAFCO TYPE 300 (MANUFACTURED BY ISOLATEK, INT.) FIREPROOFING, PRIOR TO THE INSTALLATION OF THE CEILING RUNNER AND HILTI CFS-TTS MD. WHEN SPRAY-APPLIED FIRE RESISTIVE MATERIAL IS USED IT SHALL COMPLETELY FILL THE FLUTES ABOVE AND EXTENDING THE WIDTH OF THE WALL.
 - 3. WHEN PENETRATING ITEM (ITEM 7) 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".
 - 4. AS AN ALTERNATE TO CEILING RUNNER IN ITEM 3, SLOTTED CEILING RUNNERS MAY BE USED. CONSULT THE UL FIRE RESISTANCE DIRECTORY FOR APPROVED MANUFACTURERS.
 - 5. L-RATINGS ARE NOT APPLICABLE WHEN SPRAY-APPLIED FIRE RESISTIVE MATERIAL IS USED.



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