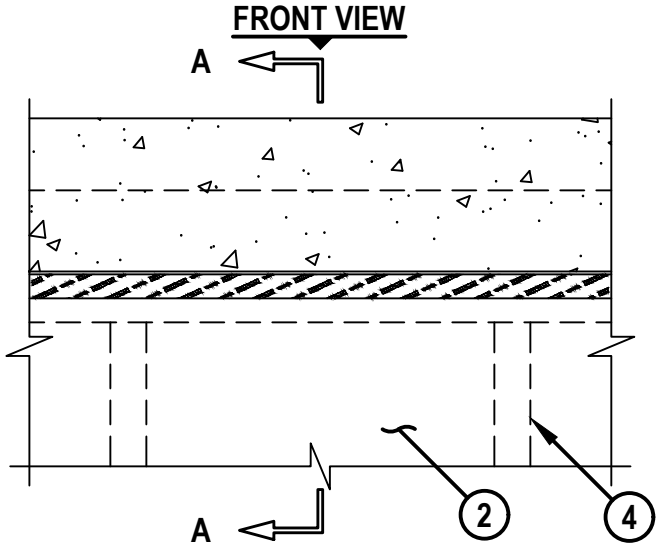
UL/cUL SYSTEM NO. HW-D-0933

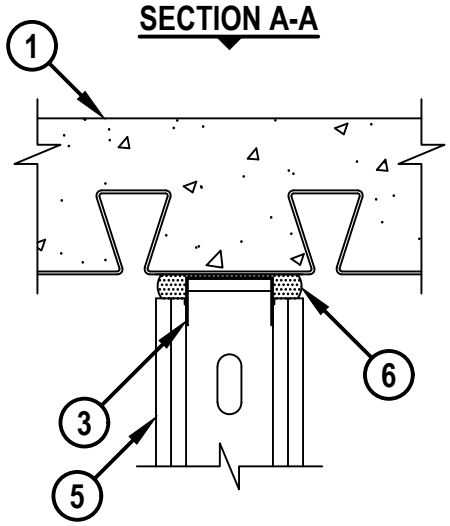
TOP OF WALL JOINT : GYPSUM WALL ASSEMBLY

ASSEMBLY RATING = 1-HR. OR 2-HR.
CLASS II OR III MOVEMENT CAPABILITIES - 62% OR 86% COMPRESSION OR EXTENSION OR 92% COMPRESSION ONLY (SEE TABLE BELOW)
L-RATING AT AMBIENT = 1 CFM / LIN FT
L-RATING AT 400°F = LESS THAN 1 CFM / LIN FT

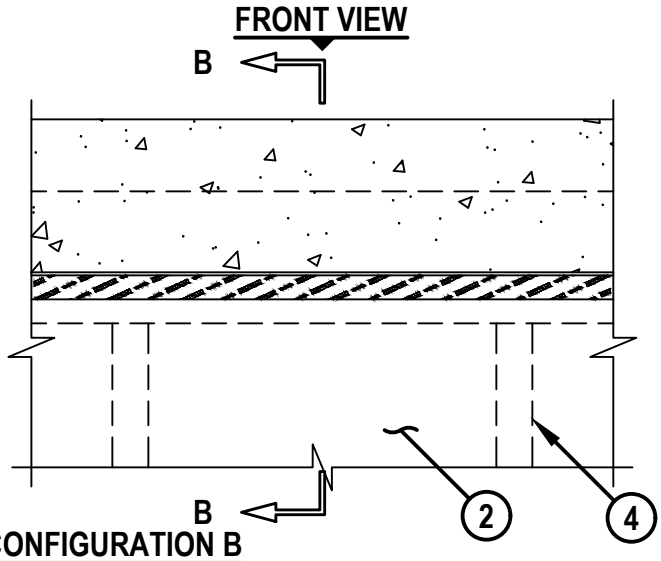
HWD0393d.100424

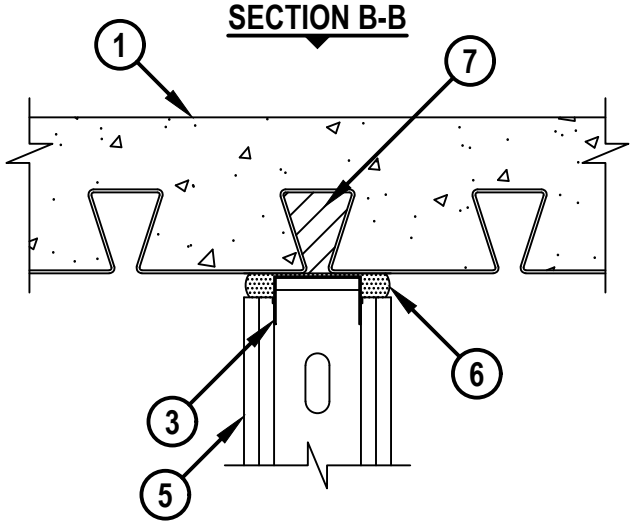
CONFIGURATION A





CONFIGURATION B





UL/cUL SYSTEM NO. HW-D-0933

TOP OF WALL JOINT : GYPSUM WALL ASSEMBLY

ASSEMBLY RATING = 1-HR. OR 2-HR.
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1. FLOOR OR ROOF ASSEMBLY (THE HOURLY RATING OF THE FLOOR OR ROOF ASSEMBLY SHALL BE EQUAL TO OR GREATER THAN THE HOURLY RATING OF THE WALL ASSEMBLY) :
   - A. REINFORCED CONCRETE (MIN. 2-1/2" THICK) OVER COMPOSITE METAL DECK (MAX. 4" DEEP FLUTES) (BY EPIC METALS).
   - A1. STEEL FLOOR AND FORM UNITS — COMPOSITE MAX 2 IN. (51 MM) AND MAX 3.5 IN. (89 MM) DEEP GALV STEEL FLUTED UNITS. (NEW MILLENNIUM BUILDING SYSTEMS L L C — VERSA-DEK®, VERSA-DEK® 3.5VLSC).
   - A2. STEEL FLOOR AND FORM UNITS – COMPOSITE MAX 2 IN. (51 MM) AND MAX 3.5 IN. (89MM) DEEP GALV STEEL FLUTED UNITS. (VERCO DECKING INC – A NUCOR CO – TYPE 2.0D FORMLOK, TYPE 3.5D FORMLOK).
   - A3. STEEL FLOOR AND FORM UNITS – COMPOSITE MAX 2 IN. (51 MM) AND MAX 3.5 IN. (89MM) DEEP GALV STEEL FLUTED UNITS. (VULCRAFT, DIV OF NUCOR CORP – TYPE 2.0D FORMLOK, TYPE 3.5D FORMLOCK).
   - B. [NOT SHOWN] FLUTED STEEL ROOF DECK (UL/cUL CLASSIFIED P900 SERIES) CONSISTING OF INSULATING CONCRETE (MIN. 2-1/2" THICK) OVER COMPOSITE METAL DECK (MAX. 4" DEEP FLUTES) (BY EPIC METALS).
   - C. REINFORCED CONCRETE (MIN. 2-1/2" THICK) OVER COMPOSITE METAL DECK (MAX. 2" DEEP FLUTES VERSA-DEK® OR MAX. 3-1/2" DEEP FLUTES VERSA-DEK® 3.5 VLSC) (BY NEW MILLENNIUM BUILDING SYSTEMS).
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE-RATING). 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" GREATER THAN MAXIMUM EXTENDED JOINT WIDTH) FASTENED TO UNDERSIDE OF DECK WITH STEEL MASONRY ANCHORS, STEEL FASTENERS, OR WELDS (SPACED MAX. 24" O.C.) (SEE NOTE NO. 2 BELOW).
4. STEEL STUDS (MIN. 3-5/8" WIDE), CUT 3/4" TO 1" LESS IN LENGTH THAN ASSEMBLY HEIGHT, NESTING 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 STUDS 3-1/2" TO 5-1/2" BELOW THE BOTTOM OF THE CEILING RUNNER.
6. HILTI CFS-TTS MD OS OR CFS-TTS MD 600 TOP TRACK SEAL INSTALLED OVER CEILING RUNNER PRIOR TO ATTACHMENT TO UNDERSIDE OF STEEL FLOOR UNIT IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS.
7. FOR CONFIGURATION B ONLY, HILTI CP 620 FIRE FOAM INSTALLED TO FILL FLUTES ABOVE WALL ASSEMBLY.

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

CLASS II OR III MOVEMENT CAPABILITIES - 62% OR 86% COMPRESSION OR EXTENSION OR 92% COMPRESSION ONLY (SEE TABLE BELOW)

L-RATING AT AMBIENT = 1 CFM / LIN FT

L-RATING AT 400°F = LESS THAN 1 CFM / LIN FT

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MAX NOM JOINT WIDTH	MAX MOVEMENT CAPABILITIES		MAX MOVEMENT
7/8"	COMPRESSION	86%	3/4"
	EXTENSION	86%	3/4"
1"	COMPRESSION	62%	5/8"
	EXTENSION	62%	5/8"
1-5/8"	COMPRESSION	92%	1-1/2"
	EXTENSION	0%	0"

AS AN ALTERNATIVE TO THE MOVEMENT PERCENTAGES ABOVE, THE JOINT SYSTEM MAY MOVE FREELY WITHOUT RESTRICTION TO THE PERCENTAGE OF MOVEMENT WITHIN THE RANGE OF A MIN 1/8" TO MAX 1-5/8" JOINT WIDTH.

NOTES : 1. AS AN ALTERNATE TO CEILING RUNNER IN ITEM 3, SLOTTED CEILING RUNNERS MAY BE USED. CONSULT THE UL FIRE RESISTANCE DIRECTORY FOR APPROVED MANUFACTURERS. WHEN SLOTTED CEILING RUNNERS ARE USED, STUDS TO BE SECURED TO CEILING RUNNERS WITH NO. 8 x 1/2" LONG STEEL SCREWS AT MID-HEIGHT OF SLOT ON EACH SIDE OF WALL.

2. FOR CONFIGURATION B ONLY, AS AN ALTERNATIVE TO HILTI CP 620 FIRE FOAM, THE FLUTES ABOVE THE WALL ASSEMBLY MAY BE FILLED WITH MINERAL WOOL SAFING (MIN. 4 PCF DENSITY) FIRMLY PACKED INTO FLUTE.