

UL SYSTEM NO. C-AJ-2109

PLASTIC PIPE THROUGH FLOOR/WALL OR BLOCK WALL ASSEMBLY

F-RATING = 2-HR. OR 3-HR.

T-RATING = 0-HR., 2-HR., OR 3-HR.

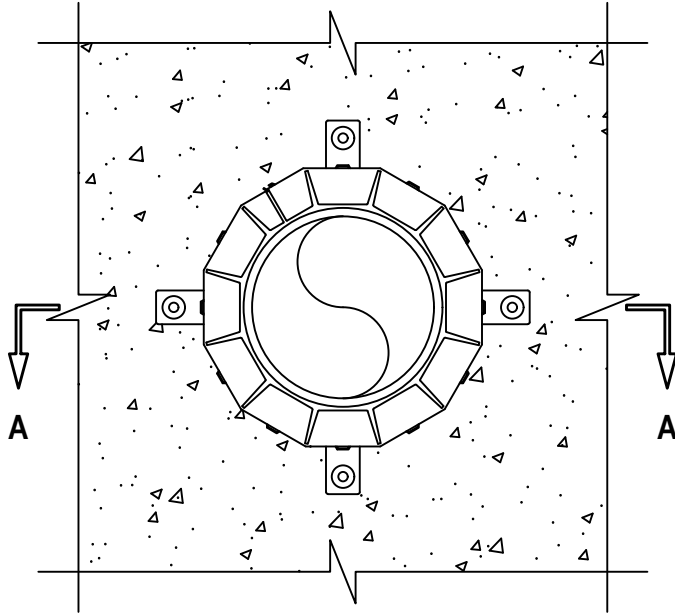
L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT (SEE NOTE NO. 9 BELOW)

L-RATING AT 400°F = LESS THAN 1 CFM / SQ FT (SEE NOTE NO. 9 BELOW)

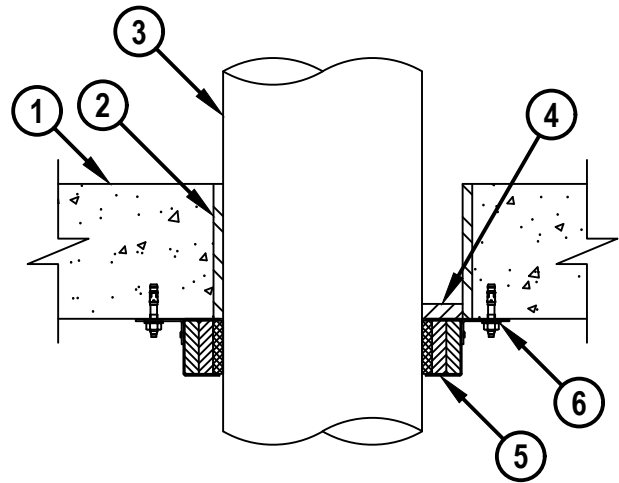
W-RATING = CLASS I (SEE NOTES NO. 7 AND 8 BELOW)

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BOTTOM VIEW



SECTION A-A



1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. OR 3-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
 - B. ANY UL CLASSIFIED CONCRETE BLOCK WALL.
2. [OPTIONAL] MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCHEDULE 40 OR HEAVIER) MAY EXTEND MAXIMUM 3" ABOVE FLOOR.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING (ALSO SEE NOTE NO. 5 BELOW) :
 - A. MAXIMUM 10" NOMINAL DIAMETER PVC PLASTIC PIPE (CELLULAR OR SOLID CORE).
 - B. MAXIMUM 10" NOMINAL DIAMETER CPVC PLASTIC PIPE (CLOSED PIPING SYSTEM ONLY).
 - C. MAXIMUM 6" NOMINAL DIAMETER ABS PLASTIC PIPE (CELLULAR OR SOLID CORE).
 - D. MAXIMUM 6" NOMINAL DIAMETER FRPP PLASTIC PIPE.
4. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT, HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT, OR HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT INSTALLED FLUSH WITH TOP OR BOTTOM SURFACE OF FLOOR.



HILTI, Inc.
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Sheet	1 of 2
Scale	5/32" = 1"
Date	Sep. 13, 2022

Drawing No.

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2109w**

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- 5. HILTI CP 643N OR CP 644 FIRESTOP COLLAR WITH FASTENING HOOKS (SEE TABLE BELOW).
- 6. EACH FASTENING HOOK SECURED TO BOTTOM OF FLOOR WITH 1/4" x 1-1/4" LONG STEEL EXPANSION BOLTS, MIN. 0.145" x 1-1/4" POWDER ACTUATED FASTENERS WITH 1-7/16" DIAMETER STEEL WASHER, 1/4" x 1-1/4" HILTI KWIK-CON II+ CONCRETE SCREW ANCHOR, 1/4" x 1-3/4" HILTI KWIK-BOLT 3 STEEL EXPANSION ANCHOR, OR HILTI X-DNI 27 P8 S15 POWDER ACTUATED FASTENER WITH INTEGRATED WASHER.

PIPE TYPE	NOMINAL PIPE DIAMETER	PRODUCT DESCRIPTION	F-RATING	T-RATING
PVC, CPVC, ABS, FRPP	1-1/2"	CP 643 50/1.5" N	3	2
PVC, CPVC, ABS, FRPP	2"	CP 643 63/2" N	3	2
PVC, CPVC, ABS, FRPP	3"	CP 643 90/3" N	3	2
PVC, CPVC, ABS, FRPP	4"	CP 643 110/4" N	3	3
PVC, CPVC, ABS (SOLID CORE), FRPP	6"	CP 643 160/6" N	3	3
ABS (CELLULAR CORE)	6"	CP 643 160/6" N	3	0
PVC, CPVC	8"	CP 644 200/8"	2	0
PVC, CPVC	10"	CP 644 250/10"	2	0

- NOTES :
1. HILTI FIRESTOP COLLARS, HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT ARE REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.
 2. MAXIMUM DIAMETER OF OPENING = 12".
 3. ANNULAR SPACE ON PIPES NOMINAL 6" AND SMALLER = MINIMUM 0", MAXIMUM 1/2".
 4. ANNULAR SPACE ON PIPES LARGER THAN NOMINAL 6" = MINIMUM 0", MAXIMUM 1-1/4".
 5. CLOSED OR VENTED PIPING SYSTEM (PVC, ABS, & FRPP = SCHEDULE 40, CPVC = SDR 13.5).
 6. HILTI FIRESTOP SEALANT IS OPTIONAL ON PIPES HAVING A MAXIMUM DIAMETER OF NOMINAL 6" INSTALLED IN UNSLEEVED OPENINGS.
 7. W-RATING DOES NOT APPLY IN SLEEVED OPENINGS.
 8. W-RATING APPLIES ONLY WHEN ANNULAR SPACE IS MINIMUM 0", MAXIMUM 1/2", AND HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT OR HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT IS USED.
 9. L-RATING APPLIES ONLY WHEN HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT OR HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT IS USED.
 10. WHEN HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT IS USED, A MINIMUM 1/2" THICKNESS OF MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED IS TO BE INSTALLED WITHIN THE ANNULAR SPACE AND RECESSED FROM THE TOP SURFACE OF CONCRETE FLOOR TO ACCOMMODATE SEALANT.



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Scale -

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