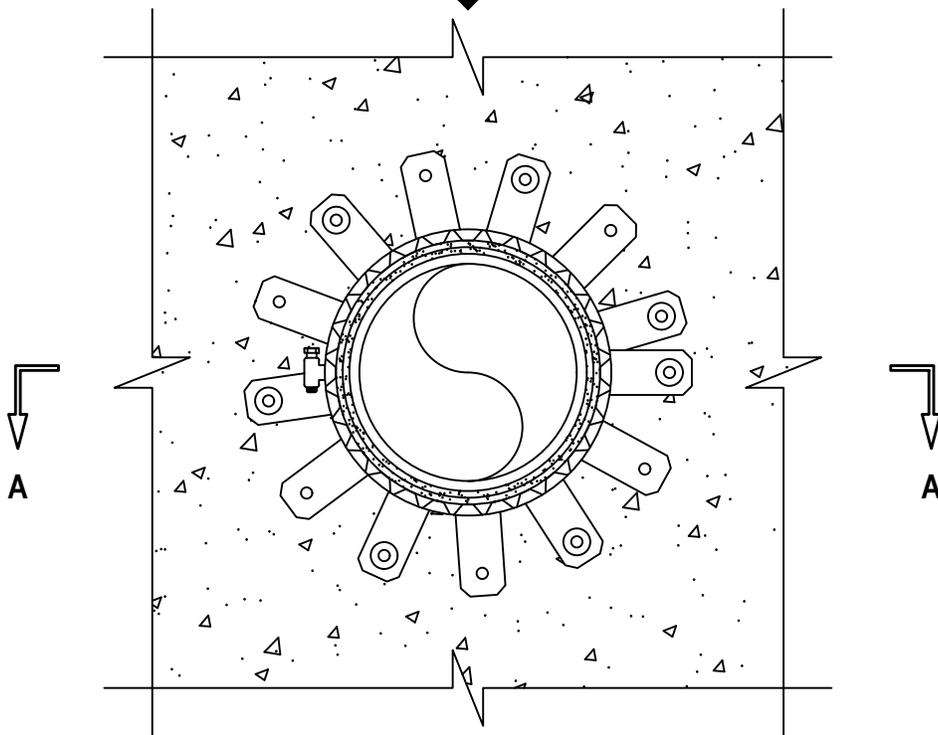


UL SYSTEM NO. C-AJ-2371  
**PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

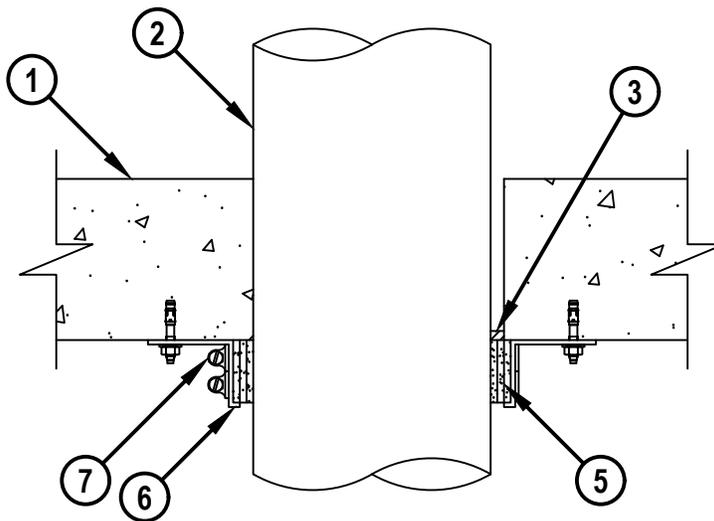
F-RATING = 3-HR.  
T-RATING = 2-HR., 2-3/4-HR., OR 3-HR. (SEE TABLE BELOW)

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**BOTTOM VIEW**



**SECTION A-A**



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Scale	3/16" = 1"
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UL SYSTEM NO. C-AJ-2371

**PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

F-RATING = 3-HR.

T-RATING = 2-HR., 2-3/4-HR., OR 3-HR. (SEE TABLE BELOW)

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1. CONCRETE FLOOR OR WALL ASSEMBLY (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. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 6" NOMINAL DIAMETER PVC PLASTIC PIPE (CELLULAR OR SOLID CORE).
  - B. MAXIMUM 6" NOMINAL DIAMETER ABS PLASTIC PIPE (CELLULAR OR SOLID CORE).
  - C. MAXIMUM 6" NOMINAL DIAMETER CPVC PLASTIC PIPE (CLOSED PIPING SYSTEM ONLY).
  - D. MAXIMUM 6" NOMINAL DIAMETER FRPP PLASTIC PIPE.
  - E. MAXIMUM 6" NOMINAL DIAMETER UPVC PLASTIC PIPE.
3. [OPTIONAL FOR ITEMS 2A THROUGH 2D] MINIMUM 1/4" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
4. [REQUIRED FOR ITEM 2E - NOT SHOWN] MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
5. HILTI CP 648E WRAP STRIP CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, AS SPECIFIED IN TABLE BELOW, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. WRAP STRIP TO BE BUTTED TIGHTLY AGAINST BOTTOM SURFACE OF FLOOR.
6. HILTI RETAINING COLLAR WRAPPED OVER THE WRAP STRIPS, OVERLAPPING MINIMUM 1".
7. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE CLAMP(S) FASTENED AT MID-HEIGHT OF RETAINING COLLAR(S) OR SECURE WITH TWO NO. 8 SHEET METAL SCREWS THROUGH THE OVERLAP OF COLLAR.
8. EVERY OTHER TAB OR MINIMUM 3 SYMMETRICALLY SPACED TABS OF RETAINING COLLAR SECURED TO BOTTOM OF FLOOR WITH 1/4" x 1-3/4" LONG STEEL EXPANSION BOLTS, 1/4" x 1-1/2" LONG CONCRETE SCREW ANCHORS, 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.



Hilti Firestop Systems

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UL SYSTEM NO. C-AJ-2371

**PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

F-RATING = 3-HR.

T-RATING = 2-HR., 2-3/4-HR., OR 3-HR. (SEE TABLE BELOW)

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NOMINAL PIPE DIAMETER	PRODUCT DESCRIPTION	NO. OF LAYERS OF CP 648E	ANNULAR SPACE		NO. OF COLLAR CLAMPS	PIPE TYPE	T-RATING (PIPE TYPE)
			MINIMUM	MAXIMUM			
1-1/2" OR 2"	CP 648E W25/1"	2	0"	1/4"	1	A, B, C, D	2-HR.
1-1/2" OR 2"	CP 648E W45/1-3/4"	1	0"	1/4"	1	ALL	2-HR. (A,B,C,D) 2-3/4-HR. (E)
3"	CP 648E W25/1"	2	0"	1/2"	1	A, B, C, D	2-HR.
3"	CP 648E W45/1-3/4"	1	0"	1/2"	1	ALL	2-HR. (A,B,C,D) 2-3/4-HR. (E)
4"	CP 648E W25/1"	2	0"	1/2"	1	A, B, C, D	2-HR.
4"	CP 648E W45/1-3/4"	2	0"	1/2"	1	ALL	2-HR. (A,B,C,D) 2-3/4-HR. (E)
6"	CP 648E W45/1-3/4"	3	0"	3/8"	2	ALL	2-HR. (A,B,C,D) 2-3/4-HR. (E)

- NOTES :**
1. MAXIMUM DIAMETER OF OPENING = 7".
  2. HILTI CP 648E WRAP STRIP(S) WITH RETAINING COLLAR AND FS-ONE MAX INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.
  3. CLOSED OR VENTED PIPING SYSTEM (PVC, ABS, FRPP = SCHEDULE 40; UPVC = SDR 41; CPVC = SDR 13.5).
  4. AS AN ALTERNATE TO HILTI CP 648E WRAP STRIP, HILTI CP 648S WRAP STRIP MAY BE USED ON PENETRATING ITEMS WITH THE EXCEPTION OF 1-1/2" AND 2" UPVC. WRAP HILTI CP 648S WRAP STRIP AROUND THE OUTER CIRCUMFERENCE OF THE PIPE AND HOLD IN PLACE WITH INTEGRATED TAPE. WRAP STRIP TO BE BUTTED TIGHTLY AGAINST BOTTOM SURFACE OF FLOOR AND SECURED WITH HILTI RETAINING COLLAR.



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