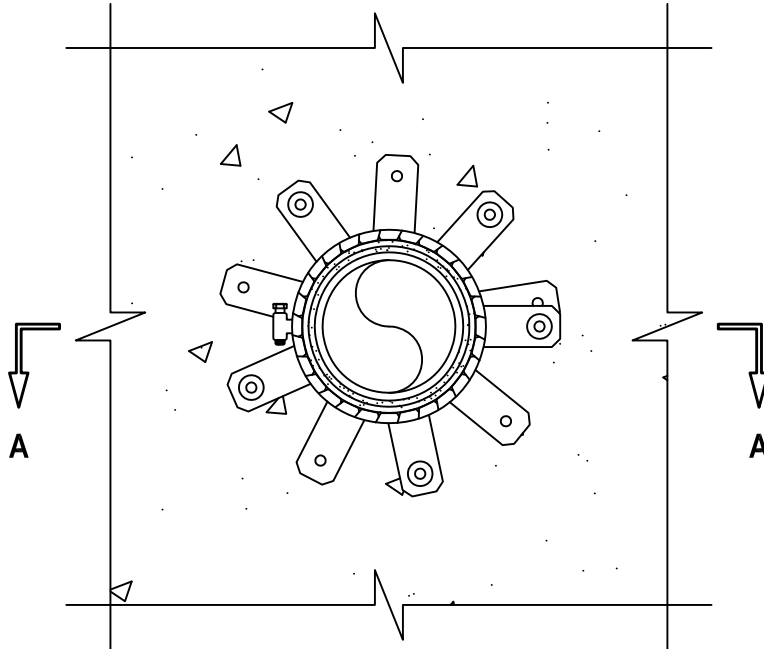


# PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

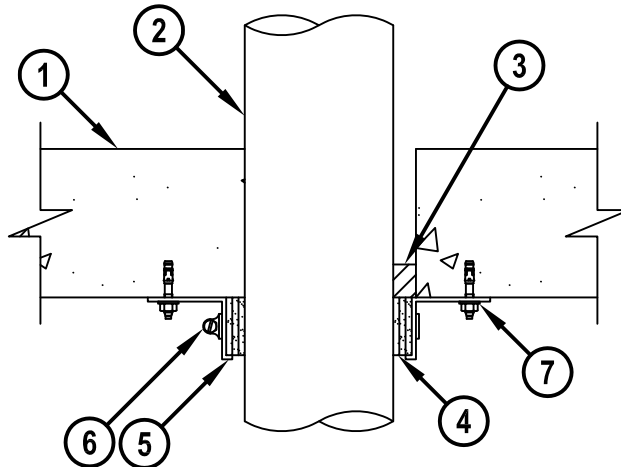
F-RATING = 2-HR.                      FT-RATING = 1 3/4-HR. OR 2-HR.  
 FH-RATING = 2-HR.                    FTH-RATING = 1 3/4-HR. OR 2-HR.  
 L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT  
 L-RATING AT 400°F = 4 CFM / SQ FT  
 NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

cUL CAJ2678c.032815

**BOTTOM VIEW**



**SECTION A-A**



HILTI, Inc.  
 Tulsa, Oklahoma USA (800) 879-8000

Sheet	1 of 2
Scale	1 1/64" = 1"
Date	Mar. 28, 2015

Drawing No.  
**cUL**  
**CAJ2678c**

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

F-RATING = 2-HR. FT-RATING = 1 3/4-HR. OR 2-HR.  
 FH-RATING = 2-HR. FTH-RATING = 1 3/4-HR. OR 2-HR.  
 L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT  
 L-RATING AT 400°F = 4 CFM / SQ FT  
 NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

cUL CAJ2678c.032815

1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
  - B. ANY UL/cUL CLASSIFIED PRECAST (HOLLOW-CORE) CONCRETE FLOOR (MINIMUM 6" THICK).
  - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 4" NOMINAL DIAMETER XFR 15/50 PVC PLASTIC PIPE (SCHEDULE 40) (SOLID CORE) (CLOSED OR VENTED PIPING SYSTEM).
  - B. MAXIMUM 4" NOMINAL DIAMETER HRS-2550 PVC PLASTIC PIPE (SCHEDULE 40).
3. MINIMUM 1" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT FLUSH WITH BOTTOM SURFACE OF FLOOR OR BOTH SIDES OF A WALL.
4. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, AS SPECIFIED IN THE TABLE BELOW, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. WRAP STRIP TO BE BUTTED TIGHTLY AGAINST BOTTOM SURFACE OF FLOOR.
5. HILTI 1-3/4" RETAINING COLLAR WRAPPED OVER THE WRAP STRIPS, OVERLAPPING MINIMUM 1".
6. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE CLAMP SECURED TO THE COLLAR AT ITS MID-HEIGHT.
7. EVERY OTHER TAB OF RETAINING COLLAR SECURED TO BOTTOM OF FLOOR WITH 1/4" x 1-3/4" LONG STEEL EXPANSION BOLTS, 3/16" x 1-1/4" LONG STEEL CONCRETE SCREW ANCHORS, OR 0.145" DIAMETER x 1-1/4" LONG POWDER ACTUATED FASTENERS IN CONJUNCTION WITH 1/16" THICK STEEL WASHERS (EX. HILTI KWIK-BOLT 3, KWIK-CON II+, OR X-U PINS).

MAX PIPE SIZE	NUMBER OF LAYERS OF CP 648E 1-3/4"
3"	2
4"	3

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 5".  
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1/2".  
 3. HILTI CP 648E WRAP STRIP WITH RETAINING COLLAR, AND HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT ARE REQUIRED ON BOTH SIDES OF A WALL.

 <b>Hilti Firestop Systems</b>	HILTI, Inc. Tulsa, Oklahoma USA (800) 879-8000	Sheet <b>2 of 2</b>	Drawing No. <b>cUL CAJ2678c</b>
		Scale <b>-</b>	
		Date <b>Mar. 28, 2015</b>	
<b><i>Saving Lives through Innovation and Education</i></b>			