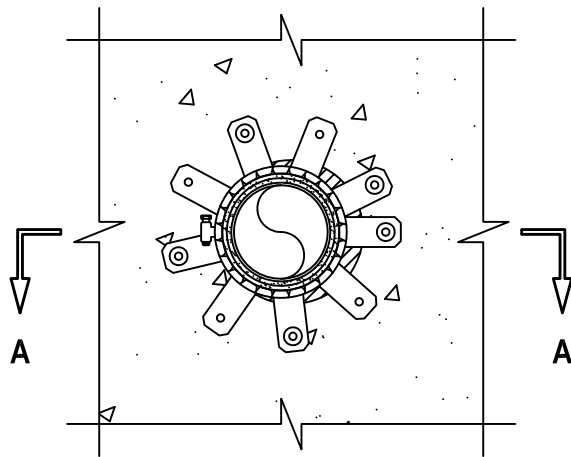


# INSULATED PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

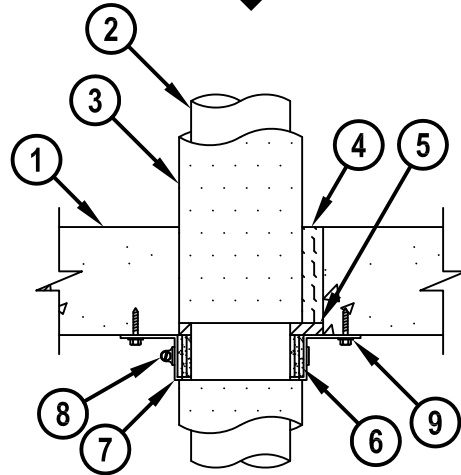
F-RATING = 2-HR.  
FT-RATING = 0-HR. OR 2-HR.  
FH-RATING = 2-HR.  
FTH-RATING = 0-HR. OR 2-HR.

NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

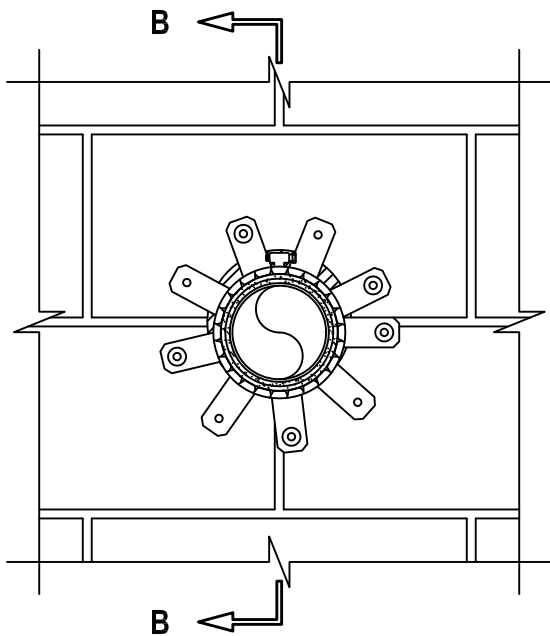
**BOTTOM VIEW**



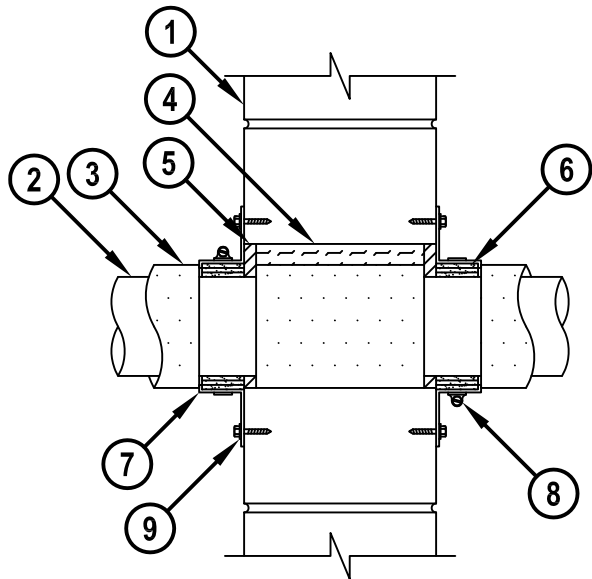
**SECTION A-A**



**FRONT VIEW**



**SECTION B-B**



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Sheet	1 of 2
Scale	1/8" = 1"
Date	Jan. 16, 2015

Drawing No.  
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**CAJ2674b**

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

F-RATING = 2-HR.

FT-RATING = 0-HR. OR 2-HR.

FH-RATING = 2-HR.

FTH-RATING = 0-HR. OR 2-HR.

NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

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1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK).
  - B. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5" THICK).
  - C. ANY UL/cUL CLASSIFIED PRECAST (HOLLOW-CORE) CONCRETE FLOOR (MINIMUM 6" THICK).
  - D. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. MAXIMUM 4" NOMINAL DIAMETER PEX TUBING (SDR 9) (UPONOR AQUAPEX OR WIRSBO HEPEX) (CLOSED OR VENTED PIPING SYSTEM).
3. NOMINAL 1/2" THICK GLASS-FIBER PIPE INSULATION. INSULATION IS DISCONTINUOUS AT THE FIRESTOP (AS SHOWN).
4. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED FROM BOTTOM OF FLOOR, OR BOTH SURFACES OF WALL.
5. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.
6. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, COVERING THREE TIMES, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. WRAP STRIP TO BE BUTTED TIGHTLY AGAINST BOTTOM SURFACE OF CONCRETE FLOOR.
7. HILTI 1-3/4" RETAINING COLLAR WRAPPED OVER THE WRAP STRIPS, OVERLAPPING MINIMUM 1".
8. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE CLAMP SECURED TO THE COLLAR AT ITS MID-HEIGHT.
9. 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 DX PINS).

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 6".  
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 7/8".  
 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.  
 4. T-RATING = 0-HR. FOR WALL OPENINGS.



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