

UL/cUL SYSTEM NO. C-AJ-8334

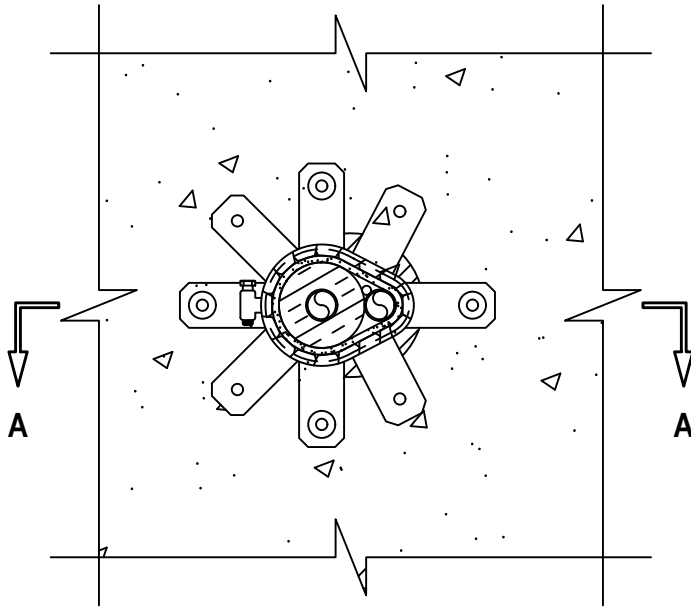
**MULTIPLE PENETRATING ITEMS THROUGH CONCRETE FLOOR/WALL
OR BLOCK WALL ASSEMBLY**

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

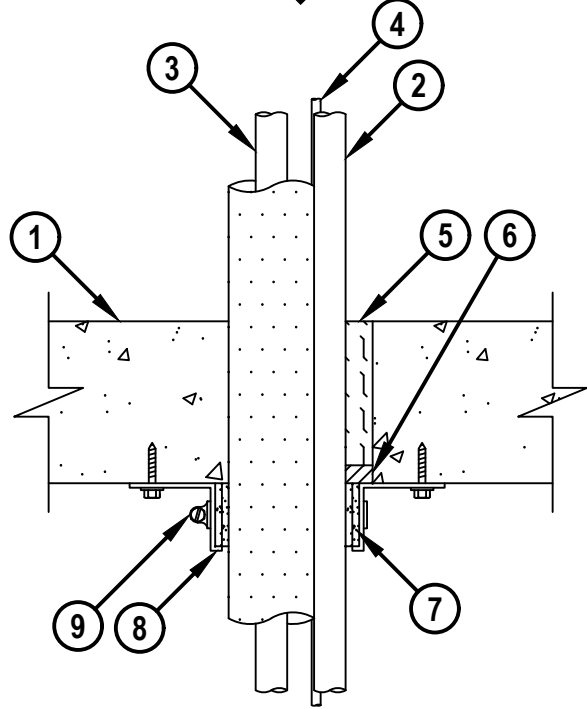
T-RATING = 1/4-HR.

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BOTTOM VIEW



SECTION A-A



HILTI, Inc.
Plano, Texas USA (800) 879-8000

Sheet	1 of 2
Scale	3/16" = 1"
Date	Aug. 21, 2024

Drawing No.

**CAJ
8334b**

Saving Lives through Innovation and Education

**MULTIPLE PENETRATING ITEMS THROUGH CONCRETE FLOOR/WALL
OR BLOCK WALL ASSEMBLY**

F-RATING = 1-HR. OR 2-HR.
T-RATING = 1/4-HR.

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1. CONCRETE FLOOR OR WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
 - B. PRECAST (HOLLOW-CORE) CONCRETE FLOOR OR WALL (MINIMUM 6" THICK).
2. PENETRATING ITEM (QTY. = 1) TO CONSIST OF ONE OF THE FOLLOWING :
 - A. MAXIMUM 3/4" NOMINAL DIAMETER COPPER PIPE OR TUBING.
 - B. MAXIMUM 3/4" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
 - C. MAXIMUM 3/4" NOMINAL DIAMETER STEEL CONDUIT OR STEEL EMT.
 - D. MAXIMUM 3/4" NOMINAL DIAMETER PIPE (SCHEDULE 5 OR HEAVIER).
3. MAXIMUM 7/8" NOMINAL DIAMETER COPPER PIPE OR TUBING WITH MAXIMUM 3/4" THICK LOW DENSITY POLYETHYLENE (LDPE) FLEXIBLE FOAM PIPE INSULATION (MANUFACTURED BY PDM US LLC - GELCOPPER OR GELBLACK) (MAX. QTY. = 1).
4. MAXIMUM 4 PAIR NO. 18 AWG THERMOSTAT CABLE WITH PVC JACKET (MAX. QTY. = 1).
5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED TO ACCOMMODATE FIRESTOP SEALANT.
6. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
7. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE THE PENETRATING ITEMS, COVERING TWO TIMES, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. WRAP STRIPS BUTTED TIGHTLY TO UNDERSIDE OF THE FLOOR ASSEMBLY.
8. HILTI RETAINING COLLAR WRAPPED OVER WRAP STRIPS, OVERLAPPING MINIMUM 1". EVERY OTHER TAB (MINIMUM OF 3) OF THE RETAINING COLLAR TO BE SECURED TO THE UNDERSIDE OF THE FLOOR ASSEMBLY WITH 1/4" x 1-3/4" LONG STEEL CONCRETE SCREWS WITH 1-7/16" x 1/16" THICK STEEL WASHERS.
9. NOMINAL 1/2" WIDE STAINLESS STEEL HOSE CLAMP FASTENED AT MID-HEIGHT OF HILTI RETAINING COLLAR.

- NOTES :**
1. MAXIMUM DIAMETER OF OPENING = 4".
 2. ANNULAR SPACE BETWEEN PENETRANTS AND PERIPHERY OF OPENING = MINIMUM 0", MAXIMUM 1-3/8".
 3. PENETRANTS THROUGH OPENING TO BE TIGHTLY BUNDLED TOGETHER.
 4. HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT TO BE APPLIED INTO INTERSTICES OF BUNDLE TO MAXIMUM EXTENT POSSIBLE.
 5. HILTI RETAINING COLLAR, HILTI CP 648E WRAP STRIPS, AND HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT ARE REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.



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