

PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

F-RATING = 2-HR. OR 3-HR. (SEE TABLE BELOW)

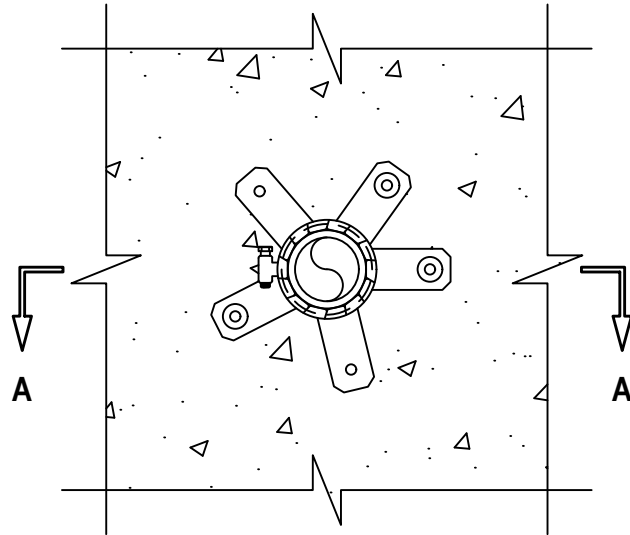
FT-RATING = 1-1/4-HR., 2-HR., 2-3/4-HR., OR 3-HR. (SEE NOTE NO. 4 BELOW)

FH-RATING = 0-HR. OR 3-HR. (SEE NOTE NO. 5 BELOW)

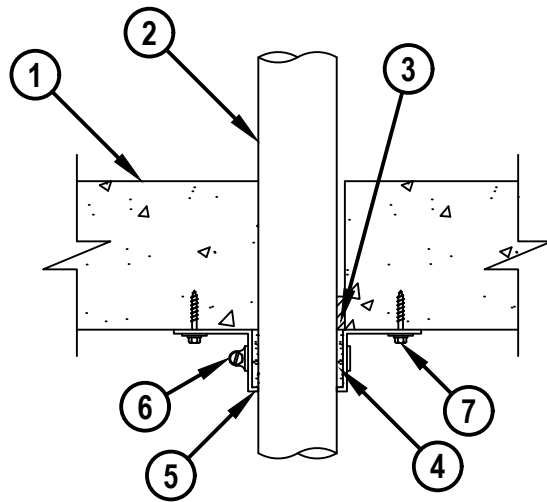
FTH-RATING = 0-HR., 2-3/4", OR 3-HR. (SEE NOTE NO. 6 BELOW)

NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

BOTTOM VIEW



SECTION A-A



cUL C-AJ-2054c-082521

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. 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 2" (51 MM OD) NOMINAL DIAMETER POLYPROPYLENE (PP) PLASTIC PIPE (SCHEDULE 80) (CLOSED OR VENTED PIPING SYSTEM).
 - B. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER AQUATHERM GREENPIPE POLYPROPYLENE (PP-R) PLASTIC PIPE (SDR 7.4 OR 11) (CLOSED OR VENTED PIPING SYSTEM).
 - C. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER AQUATHERM BLUEPIPE POLYPROPYLENE (PP-RCT) PLASTIC PIPE (SDR 9 OR 11) (CLOSED OR VENTED PIPING SYSTEM).
 - D. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER NUPI AMERICAS NIRON POLYPROPYLENE (PP-RCT) PLASTIC PIPE (SDR 7.3, 9, OR 11) (CLOSED OR VENTED PIPING SYSTEM).
 - E. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER AQUATECHNIK NA FUSION-TECH POLYPROPYLENE (PP-RCT) PLASTIC PIPE (SDR 7.4 OR 11) (CLOSED OR VENTED PIPING SYSTEM).
 - F. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER UPONOR POLYPROPYLENE (PP-RCT) PLASTIC PIPE (SDR 9 OR 11) (CLOSED OR VENTED PIPING SYSTEM).
 - G. MAXIMUM 2" (63 MM OD) NOMINAL DIAMETER NAPSYS-HR PVC HR POLYVINYL CHLORIDE (PVC-HR) PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).



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

Sheet	1 of 2
Scale	11/64" = 1"
Date	Aug. 25, 2021

Drawing No.
cUL
CAJ2054c

PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

F-RATING = 2-HR. OR 3-HR. (SEE TABLE BELOW)

FT-RATING = 1-1/4-HR., 2-HR., 2-3/4-HR., OR 3-HR. (SEE NOTE NO. 4 BELOW)

FH-RATING = 0-HR. OR 3-HR. (SEE NOTE NO. 5 BELOW)

FTH-RATING = 0-HR., 2-3/4", OR 3-HR. (SEE NOTE NO. 6 BELOW)

NOTE : TESTED WITH A 50 Pa PRESSURE DIFFERENTIAL

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3. MINIMUM 1" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT.
4. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK X 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PIPE, COVERING ONE TIME, 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 FASTENED AT MID-HEIGHT OF RETAINING COLLAR.
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 15mm DIAMETER STEEL WASHERS (EX. HILTI KWIK-BOLT 3, KWIK-CON OR DX PINS).

PENETRANT TYPE	F-RATING
2A	2-HR.
2G	2-HR.
2B, 2C	3-HR.
2D, 2E, 2F	3-HR.

- NOTES :
1. MAXIMUM DIAMETER OF OPENING = 2-5/8" (FOR PENETRANT TYPES 2A AND 2G) OR 3" (FOR PENETRANT TYPES 2B, 2C, 2D, 2E, AND 2F).
 2. ANNULAR SPACE = MINIMUM 0" (FOR ALL PENETRANTS TYPES), MAXIMUM 1/4" (FOR PENETRANT TYPES 2A AND 2G) OR 1/2" (FOR PENETRANTS TYPES 2B, 2C, 2D, 2E, AND 2F).
 3. HILTI CP 648E WRAP STRIP WITH RETAINING COLLAR, AND HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT ARE REQUIRED ON BOTH SIDES OF A WALL.
 4. FT-RATING FOR 2-HR. FLOOR OR WALL IS 1-1/4-HR. FOR PENETRANT TYPE 2A.
FT-RATING FOR 2-HR. FLOOR OR WALL IS 2-HR. FOR PENETRANT TYPE 2G.
FT-RATING FOR 3-HR. FLOOR OR WALL IS 2-3/4-HR. FOR PENETRANT TYPES 2B AND 2C.
FT-RATING FOR 3-HR. FLOOR OR WALL IS 3-HR. FOR PENETRANT TYPES 2D, 2E, AND 2F.
 5. FH-RATING FOR 2-HR. FLOOR OR WALL IS 0-HR. FOR PENETRANT TYPE 2A AND 2G.
FH-RATING FOR 3-HR. FLOOR OR WALL IS 3-HR. FOR PENETRANT TYPES 2B, 2C, 2D, 2E, AND 2F.
 6. FTH-RATING FOR 2-HR. FLOOR OR WALL IS 0-HR. FOR PENETRANT TYPE 2A AND 2G.
FTH-RATING FOR 3-HR. FLOOR OR WALL IS 2-3/4-HR. FOR PENETRANT TYPES 2B AND 2C.
FTH-RATING FOR 3-HR. FLOOR OR WALL IS 3-HR. FOR PENETRANT TYPES 2D, 2E, AND 2F.



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