

MULTIPLE PENETRATING ITEMS THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL

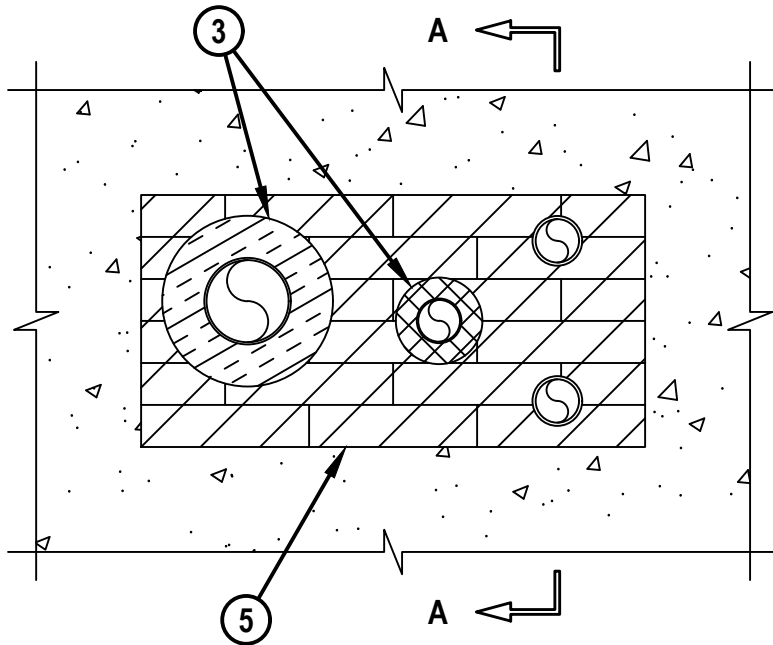
F-RATING = 2-HR.

T-RATING = 0-HR., 1 1/4-HR., OR 1 3/4-HR.

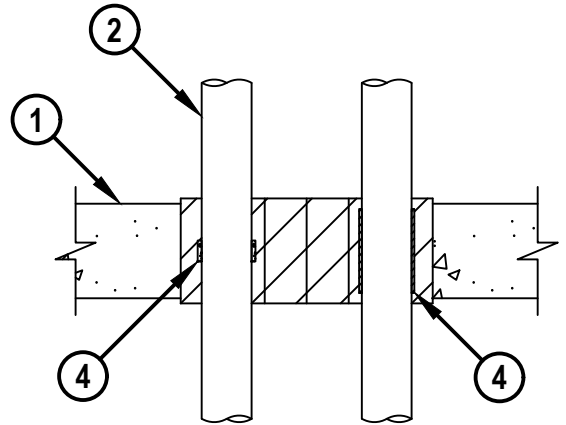
NOTE : TESTED TO A 2.5 Pa PRESSURE DIFFERENTIAL

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TOP VIEW



SECTION A-A



- 1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK).
 - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.



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

Sheet	1 of 2
Scale	7/64" = 1"
Date	Aug. 25, 2022

Drawing No.
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MULTIPLE PENETRATING ITEMS THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL

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2. ONE OR MORE OF THE FOLLOWING PENETRATING ITEMS, IN ANY COMBINATION, MAY BE INSTALLED WITHIN THE OPENING :
 - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 5 OR HEAVIER).
 - B. MAXIMUM 4" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
 - C. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE OR TUBING.
 - D. MAXIMUM 2" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40) (CLOSED OR VENTED PIPING SYSTEM).
 - E. MAXIMUM 2" NOMINAL DIAMETER CPVC PLASTIC PIPE (SDR 13.5) (CLOSED PIPING SYSTEM).
 - F. MAXIMUM 2" DIAMETER CABLE BUNDLE CONSISTING OF ANY OF THE FOLLOWING :
 - 1) MAXIMUM 500 KCMIL SINGLE COPPER CONDUCTOR WITH PVC JACKET.
 - 2) MAXIMUM 300 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - 3) MAXIMUM 7/C NO. 12 AWG POWER CABLE WITH PVC JACKET.
 - 4) MAXIMUM 1/2" DIAMETER FIBER-OPTIC CABLE WITH PVC JACKET.
 - 5) MAXIMUM 3/C NO. 12 AWG METAL CLAD CABLE.
3. ONE OF THE FOLLOWING TYPES OF PIPE INSULATION SHALL BE USED ON METALLIC PENETRANT (EXCEPT THAT A MAXIMUM OF TWO METALLIC PENETRANTS WITH NOMINAL DIAMETER NOT EXCEEDING 3" MAY BE INSTALLED IN THE OPENING WITH NO PIPE INSULATION) :
 - A. NOMINAL 2" THICK GLASS-FIBER PIPE INSULATION.
 - B. NOMINAL 1" THICK AB/PVC PIPE INSULATION FOR PIPE WITH A NOMINAL 2" DIAMETER OR SMALLER.
4. ONE OF THE FOLLOWING MUST BE INSTALLED AROUND NON-METALLIC PIPES PRIOR TO INSTALLATION OF FIRESTOP BLOCKS.
 - A. MINIMUM 4" HIGH BY 1/16" THICK LAYER OF HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT INSTALLED AROUND CIRCUMFERENCE OF NON-METALLIC PIPE AND CENTERED WITHIN FLOOR OR WALL.
 - B. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE NON-METALLIC PIPE, COVERING ONE TIME, WITH ENDS BUTTED AND HELD IN PLACE WITH (MASKING OR ALUMINUM) TAPE. WRAP STRIP TO BE CENTERED WITHIN FLOOR OR WALL.
5. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 8" WIDE x 5" DEEP, REFERENCE : TOP VIEW) FIRMLY PACKED AND CENTERED WITHIN OPENING (SEE NOTE NO. 5 BELOW).

- NOTES :
1. MAXIMUM AREA OF OPENING = 288 SQ. IN., WITH A MAXIMUM DIMENSION OF 24".
 2. ANNULAR SPACE BETWEEN PENETRATING ITEMS AND PERIPHERY OF OPENING = MINIMUM 1".
 3. ANNULAR SPACE BETWEEN PENETRATING ITEMS = MINIMUM 3".
 4. APPLY HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR HILTI CP 618 FIRESTOP PUTTY STICK IN ANY VOID THAT MAY EXIST AROUND PENETRANTS OR FIRESTOP BLOCKS. HILTI CP 618 IS NOT SUITABLE FOR USE WITH CPVC.
 5. FOR BLOCK WALLS, FIRESTOP BLOCKS TO FILL ENTIRE THICKNESS OF WALL UNLESS WALL IS SOLID FILLED.



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