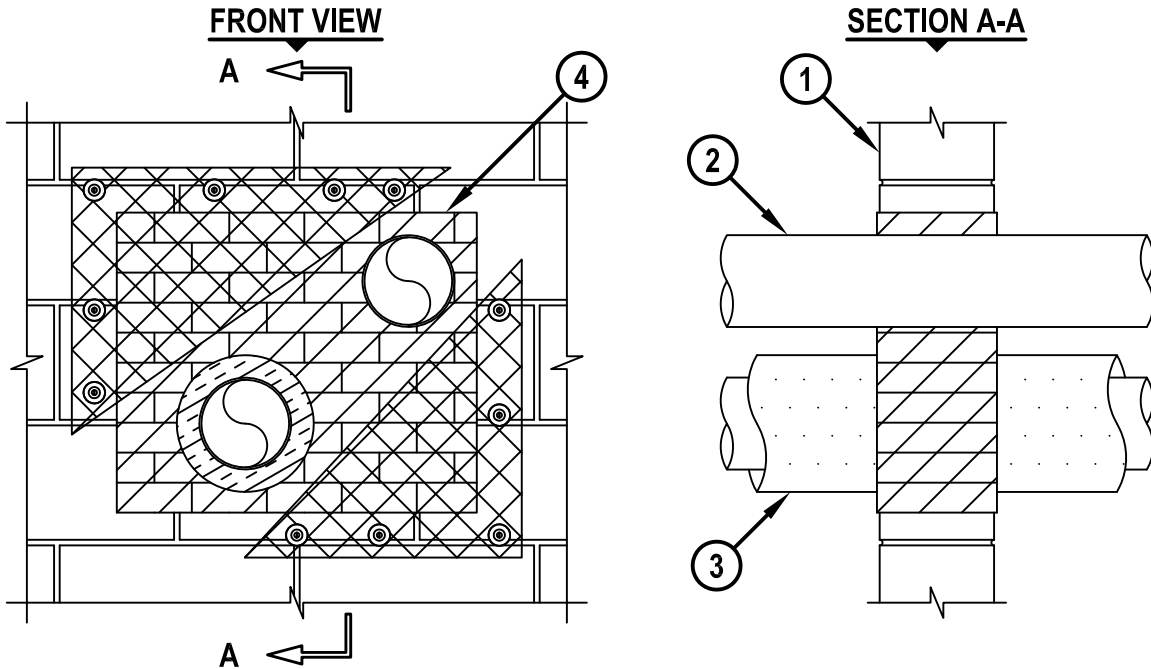


**MULTIPLE PENETRANTS THROUGH CONCRETE BLOCK WALL ASSEMBLY**

F-RATING = 4-HR.  
T-RATING = 0-HR.

WJ8049b.010915



1. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL ASSEMBLY (MIN. 7-5/8" THICK) (4-HR. FIRE-RATING).
2. PENETRATING ITEMS (MAX. QTY. = 2) TO CONSIST OF ANY COMBINATION OF THE FOLLOWING :
  - A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE OR TUBING.
  - C. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
  - D. MAXIMUM 4" NOMINAL DIAMETER EMT.
3. [OPTIONAL] NOMINAL 1-1/2" THICK GLASS-FIBER PIPE INSULATION (MIN. 3.5 PCF DENSITY).
4. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 5" WIDE x 8" DEEP, REFERENCE : FRONT VIEW) FIRMLY PACKED WITHIN OPENING.

- NOTES :**
1. MAXIMUM AREA OF OPENING = 480 SQ. IN., WITH A MAXIMUM DIMENSION OF 24".
  2. ANNULAR SPACE BETWEEN PIPES, CONDUITS, OR TUBING AND PERIPHERY OF OPENING = MINIMUM 1-1/2".
  3. ANNULAR SPACE BETWEEN PIPES, CONDUITS, OR TUBING = MINIMUM 4".
  4. ANNULAR SPACE BETWEEN INSULATED PIPES AND PERIPHERY OF OPENING = MIN. 1-1/2".
  5. APPLY HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT IN ANY VOID THAT MAY EXIST AROUND PENETRANTS OR FIRESTOP BLOCKS.
  6. IF THE ANNULAR SPACE IS GREATER THAN 12", THEN ATTACH A STEEL WIRE MESH (NOMINAL 2" SQUARES, NO. 16 SWG) WITH 1/4" DIAMETER x 1" LONG STEEL CONCRETE ANCHORS AND 1-1/2" DIAMETER FENDER WASHERS (SPACED MAXIMUM 8" C/C) ON BOTH SIDES OF WALL ASSEMBLY. STEEL WIRE MESH SHALL BEGIN MAXIMUM 2-1/2" FROM THE PENETRANT AND OVERLAP MINIMUM 3" BEYOND THE PERIPHERY OF THE OPENING.



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

Sheet	1 of 1
Scale	5/64" = 1"
Date	Jan. 09, 2015

Drawing No.  
**WJ**  
**8049b**