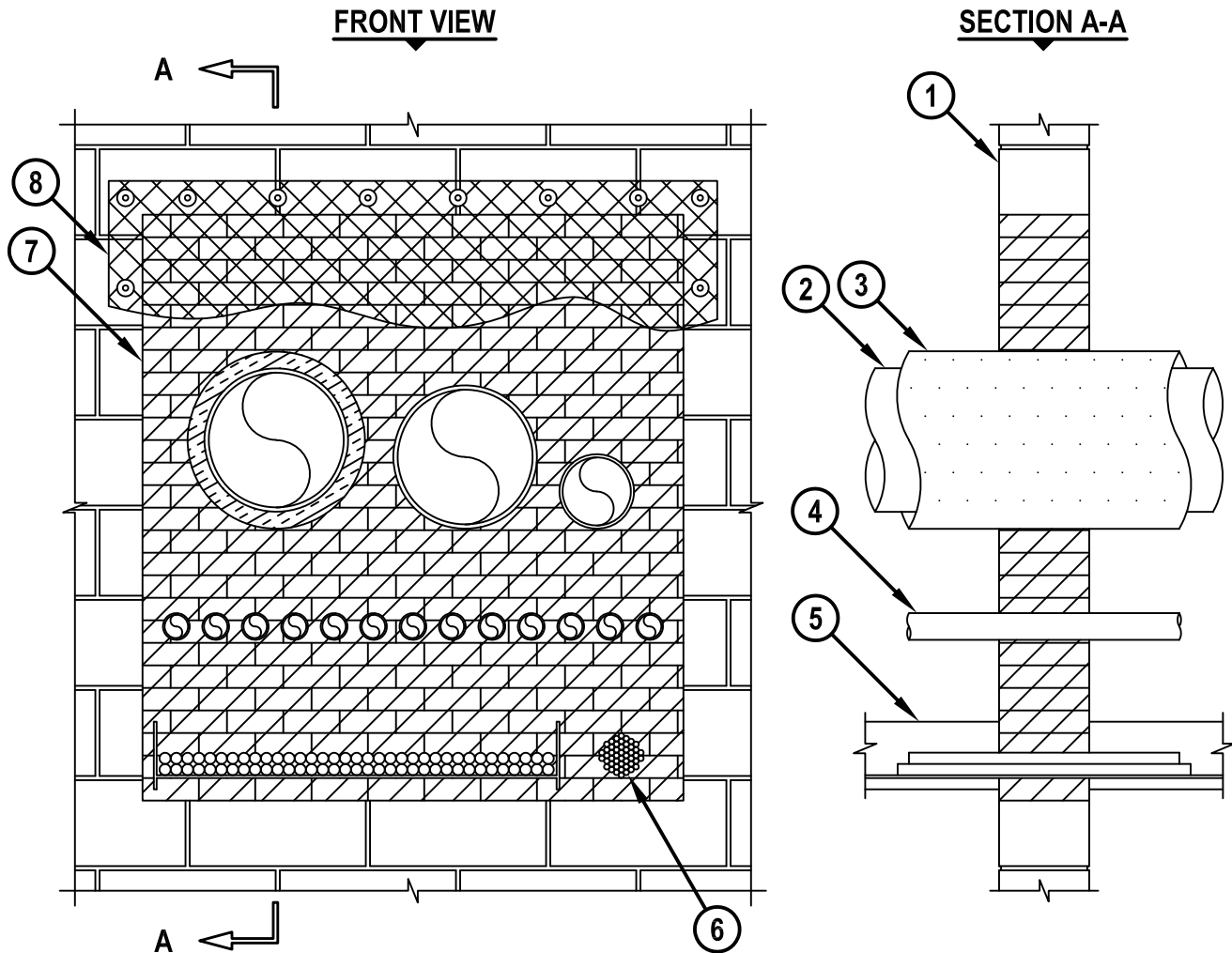


MULTIPLE PENETRATING ITEMS THROUGH CONCRETE BLOCK WALL ASSEMBLY

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

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1. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL ASSEMBLY (MINIMUM 7-5/8" THICK) (4-HR. FIRE-RATING).
2. ONE OR MORE OF THE FOLLOWING PIPES, CONDUITS, OR TUBING (IN ANY COMBINATION) MAY BE INSTALLED WITHIN THE OPENING :
 - A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 12" NOMINAL DIAMETER CAST IRON PIPE.
 - C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
 - D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
 - E. MAXIMUM 4" NOMINAL DIAMETER EMT.
3. NOMINAL 1-1/2" THICK GLASS FIBER PIPE INSULATION.
4. MAXIMUM 2" DIAMETER STEEL CONDUIT (MAX. QTY. = 13).



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Sheet	1 of 2
Scale	1/16" = 1"
Date	Jan. 18, 2019

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MULTIPLE PENETRATING ITEMS THROUGH CONCRETE BLOCK WALL ASSEMBLY

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

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5. MAXIMUM 36" x 6" ALUMINUM OPEN LADDER CABLE TRAY. ANY OF THE FOLLOWING TYPES OF CABLE MAY BE USED WITH MAXIMUM 40% FILL OF CABLE TRAY (BASED ON A MAXIMUM 6" CABLE LOADING DEPTH) :
 - A. MAXIMUM 24 FIBER OPTIC CABLE WITH PVC JACKET.
 - B. MAXIMUM 300 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - C. MAXIMUM 500 KCMIL SINGLE CONDUCTOR POWER CABLE WITH NYLON JACKET.
 - D. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR CABLE WITH PVC JACKET.
6. MAXIMUM 4" DIAMETER CABLE BUNDLE TO INCLUDE ANY OF THE FOLLOWING :
 - A. MAXIMUM 300 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - B. MAXIMUM 24 FIBER OPTIC CABLE WITH PVC JACKET.
 - C. MAXIMUM 3/C NO. 18 METAL CLAD CABLE.
 - D. RGU/59 COAXIAL CABLE WITH PVC JACKET.
 - E. MAXIMUM ROMEX (2/C NO. 10 +GROUND) WITH PVC JACKET.
 - F. MAXIMUM 7/C NO. 12 AWG CABLE WITH PVC JACKET.
7. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 5" WIDE x 8" DEEP, REFERENCE : FRONT VIEW) FIRMLY PACKED WITHIN WALL.
8. SEE NOTE NO. 3 BELOW.

ANNULAR SPACE	MINIMUM
BETWEEN CABLE TRAY AND ADJACENT PENETRATING ITEMS	2"
BETWEEN CABLE TRAY AND PERIPHERY OF OPENING	1"
BETWEEN PIPES, CONDUITS, OR TUBING (ITEM 2)	1-1/2"
BETWEEN PIPES, CONDUITS, OR TUBING (ITEM 2) AND PERIPHERY OF OPENING	3"
BETWEEN STEEL CONDUITS (ITEM 4)	1-1/8"
BETWEEN STEEL CONDUITS (ITEM 4) AND ADJACENT PENETRATING ITEMS	4-1/2"
BETWEEN STEEL CONDUITS (ITEM 4) AND PERIPHERY OF OPENING	1-1/8"
BETWEEN CABLE BUNDLE AND ADJACENT PENETRATING ITEMS	2"
BETWEEN CABLE BUNDLE AND PERIPHERY OF OPENING	1-1/2"

NOTES : 1. MAXIMUM AREA OF OPENING = 2496 SQUARE INCHES WITH MAXIMUM DIMENSION OF 52".
 2. APPLY HILTI FS-ONE MAX INTO INTERSTICES OF CABLES, BETWEEN CABLES AND CABLE TRAY, AND ANY VOIDS BETWEEN FIRESTOP BLOCKS TO MAXIMUM EXTENT POSSIBLE.
 3. WHEN ANNULAR SPACE EXCEEDS 12", A NOMINAL 2" x 2" STEEL WIRE MESH (16 GA.) SHALL BE ATTACHED TO BOTH SIDES OF THE WALL BY MEANS OF 4-3/16" LONG HOLLOW WALL ANCHORS AND 1/4" BY 1-1/2" DIAMETER FENDER WASHERS (SPACED MAXIMUM 8" C/C). STEEL WIRE MESH CUT TO WITHIN MAXIMUM 2" OF PENETRANT AND OVERLAP MINIMUM 3" BEYOND THE PERIPHERY OF THE OPENING.



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Scale	-
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