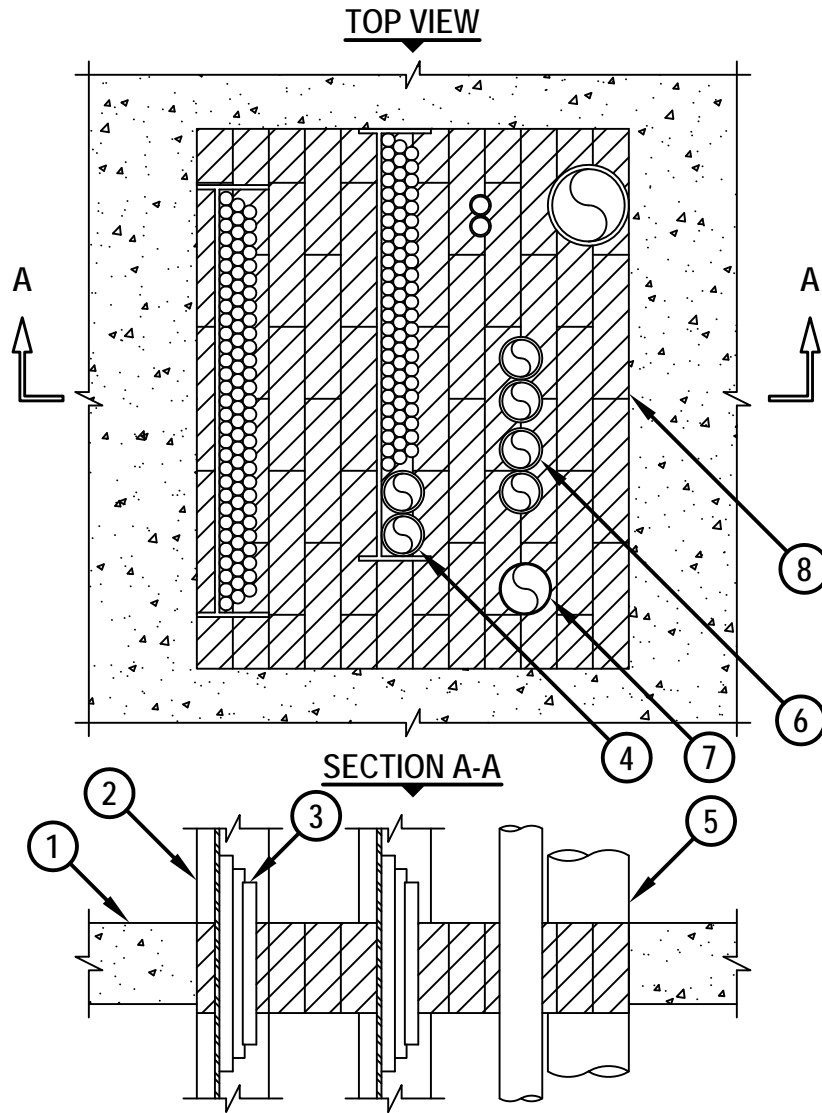


UL/cUL SYSTEM NO. C-AJ-8110

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

F-RATING = 3-HR.
T-RATING = 0-HR.

CAJ8110d.010615



1. CONCRETE FLOOR OR WALL ASSEMBLY (3-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
 - B. ANY UL/cUL CLASSIFIED SOLID OR FILLED CONCRETE BLOCK WALL.
2. MAXIMUM 24" x 4" ALUMINUM OR STEEL OPEN LADDER CABLE TRAY (MAXIMUM QUANTITY = 2).
3. ANY COMBINATION OF THE FOLLOWING CABLES MAY BE USED WITHIN THE CABLE TRAYS.
 - A. MAXIMUM 300 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - B. MAXIMUM 750 KCMIL SINGLE CONDUCTOR POWER CABLE WITH PVC JACKET.
 - C. MAXIMUM 1/2" DIAMETER FIBER-OPTIC CABLE (24 FIBER) WITH PVC JACKET.
 - D. MAXIMUM 3/C NO. 12 AWG METAL-CLAD CABLE.



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Sheet	1 of 2
Scale	3/32" = 1"
Date	Jan. 06, 2015

Drawing No.
**CAJ
8110d**

Saving Lives through Innovation and Education

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

F-RATING = 3-HR.
T-RATING = 0-HR.

CAJ8110d.010615

4. MAX. 2" NOM. DIA. OPTICAL FIBER RACEWAY (MAX. QTY. = 2) INSTALLED WITHIN CABLE TRAY.
5. PENETRATING ITEM TO BE ANY OF THE FOLLOWING :
 - A. MAXIMUM 8" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).
 - B. MAXIMUM 8" NOMINAL DIAMETER CAST IRON PIPE.
 - C. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE.
 - D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
 - E. MAXIMUM 4" NOMINAL DIAMETER EMT.
6. MAXIMUM 2" NOMINAL DIAMETER EMT OR STEEL CONDUIT.
7. MAXIMUM 1800 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
8. HILTI CFS-BL FIRESTOP BLOCK OR HILTI FS 657 FIRE BLOCK (2" THICK x 8" WIDE x 5" DEEP, REFERENCE : TOP VIEW) FIRMLY PACKED AND FLUSH WITH TOP SURFACE OF FLOOR, OR CENTERED WITHIN WALL. EITHER ONE OR A COMBINATION OF THE BLOCK TYPES MAY BE USED.

ANNULAR SPACE	MINIMUM	MAXIMUM
BETWEEN CABLE TRAYS AND PERIPHERY OF OPENING	0"	3"
BETWEEN CABLE TRAYS	-	5"
BETWEEN METAL PIPE (ITEM 5) AND PERIPHERY OF OPENING	0"	-
BETWEEN METAL PIPE (ITEM 5) AND ADJACENT PENETRANTS	2"	-
BETWEEN EMT (ITEM 6) OR MAXIMUM 1800 PAIR TELEPHONE CABLE (ITEM 7) AND PERIPHERY OF OPENING	4"	-
BETWEEN EMT (ITEM 6) OR MAXIMUM 1800 PAIR TELEPHONE CABLE (ITEM 7) AND ADJACENT PENETRANTS	1-1/2"	-
BETWEEN EMT'S (MAXIMUM QUANTITY = 2)	0"	-

- NOTES :
1. MAXIMUM SIZE OF OPENING = 30" x 24".
 2. APPLY HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT, CP 618 FIRESTOP PUTTY STICK, OR CP 620 FIRE FOAM, IN ANY VOID THAT MAY EXIST (AROUND PENETRANTS, INTO INTERSTICES OF CABLES, BETWEEN CABLES AND CABLE TRAY, OR BETWEEN FIRESTOP BLOCKS/FIRE BLOCKS), TO MAXIMUM EXTENT POSSIBLE.
 3. WHEN ANNULAR SPACE EXCEEDS 4", A NOM. 2" x 2" STEEL WIRE MESH (16 GA.) SHALL BE ATTACHED TO THE TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL WITH 1/4" DIA. x 1" LONG STEEL CONCRETE ANCHORS AND 1-1/2" DIAMETER FENDER WASHERS SPACED MAXIMUM 8" C/C. STEEL WIRE MESH SHALL BEGIN MAXIMUM 2-1/2" FROM THE PENETRANT AND OVERLAP MINIMUM 3" BEYOND THE PERIPHERY OF THE OPENING.
 4. MAXIMUM AREA OF CABLES SHALL BE 45% OF CROSS-SECTIONAL AREA OF ONE CABLE TRAY AND 30% OF SECOND CABLE TRAY.



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Sheet	2 of 2
Scale	-
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