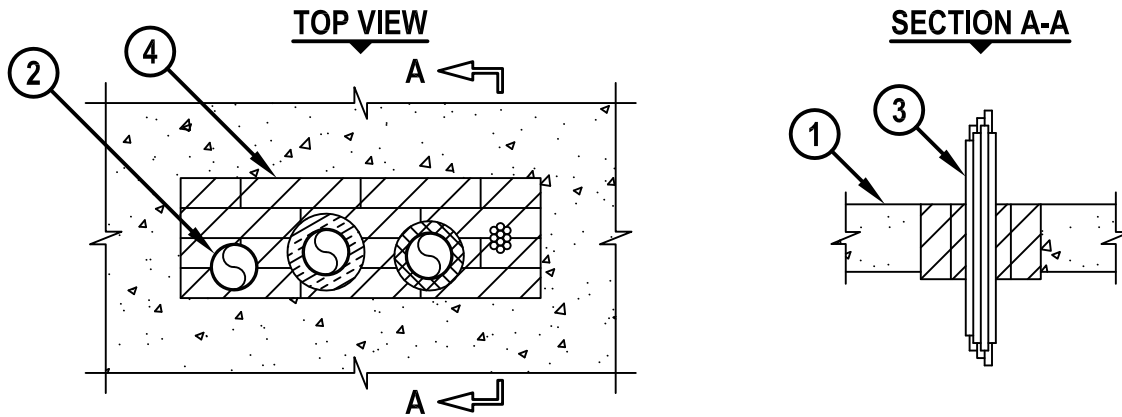


**MULTIPLE PENETRATING ITEMS THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

F-RATING = 2-HR. OR 3-HR.  
T-RATING = 0-HR, 3/4-HR., OR 1-HR.

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1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. OR 3-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK).
  - B. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5" THICK).
  - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. ONE OR MORE OF THE FOLLOWING PIPES, AND IN ANY COMBINATION MAY BE INSTALLED WITHIN THE OPENING :
  - A. MAXIMUM 3" NOMINAL DIAMETER COPPER PIPE.
  - B. MAXIMUM 3" NOMINAL DIAMETER COPPER PIPE WITH NOMINAL 1" THICK GLASS-FIBER PIPE INSULATION.
  - C. MAXIMUM 3" NOMINAL DIAMETER COPPER PIPE WITH NOMINAL 3/4" THICK AB/PVC PIPE INSULATION.
3. MAXIMUM 2" DIAMETER CABLE BUNDLE TO CONSIST OF ANY OF THE FOLLOWING :
  - A. MAXIMUM 300 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
  - B. MAXIMUM 500 KCMIL POWER CABLE WITH PVC JACKET.
  - C. MAXIMUM 7/C NO. 12 AWG POWER CABLE WITH PVC JACKET.
  - D. MAXIMUM 1/2" DIAMETER FIBER-OPTIC CABLE (24 FIBER).
  - E. MAXIMUM 3/C NO. 12 AWG METAL-CLAD CABLE.
4. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 8" WIDE x 5" DEEP, REFERENCE : TOP VIEW) FIRMLY PACKED AND FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.

**NOTES :**

1. MAXIMUM AREA OF OPENING = 192 SQ. IN., WITH A MAXIMUM DIMENSION OF 24".
2. ANNULAR SPACE BETWEEN CABLE BUNDLE, PIPES, AND INSULATED PIPES = MINIMUM 1/2", MAXIMUM 12".
3. ANNULAR SPACE BETWEEN PIPES/INSULATED PIPES AND PERIPHERY OF OPENING = MINIMUM 1/2", MAXIMUM 12".
4. ANNULAR SPACE BETWEEN CABLE BUNDLE AND PERIPHERY OF OPENING = MINIMUM 2", MAXIMUM 4".
5. FOR 2-HR. F-RATING ONLY, THERE IS NO LIMITATION ON THE MAXIMUM ANNULAR SPACE.
6. APPLY HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT OR HILTI CP 618 FIRESTOP PUTTY STICK IN ANY VOID THAT MAY EXIST (AROUND PENETRANTS OR BETWEEN FIRESTOP BLOCKS).



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

Sheet	1 of 1
Scale	5/64" = 1"
Date	Aug. 28, 2015

Drawing No.  
**CAJ  
8208c**