

**INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL**

F-RATING = 2-HR. OR 3-HR.

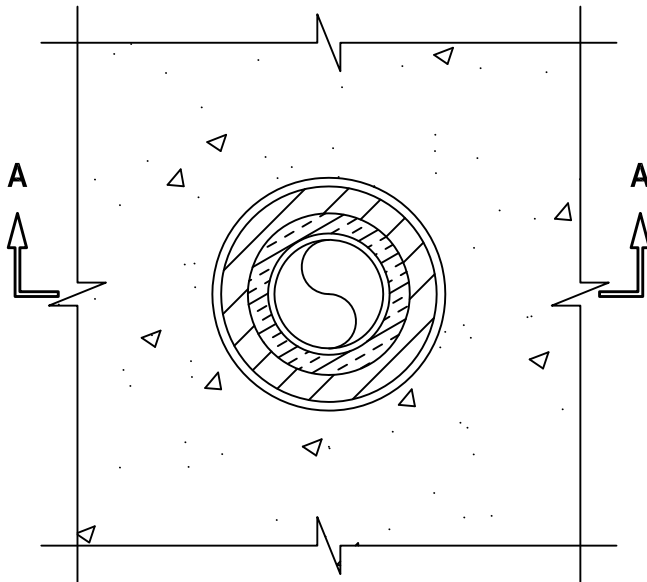
T-RATING = 0-HR.

L-RATING AT AMBIENT = 4 CFM / SQ FT

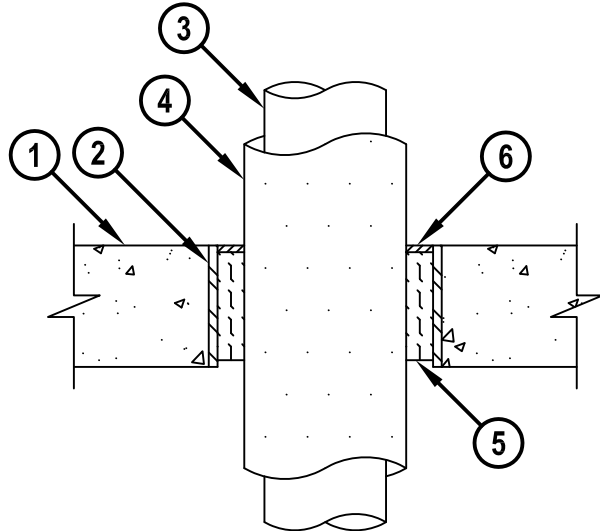
L-RATING AT 400°F = LESS THAN 1 CFM / SQ FT

CAJ5090h.010615

**FRONT VIEW**

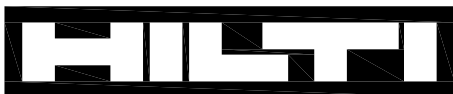


**SECTION A-A**



1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. OR 3-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
  - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. [OPTIONAL] MAXIMUM 18" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER) MAY EXTEND MAXIMUM 3" ABOVE FLOOR, OR BOTH SURFACES OF WALL.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 5 OR HEAVIER).
  - B. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE OR TUBING.
4. MINIMUM 1/2" TO MAXIMUM 3/4" THICK AB/PVC PIPE INSULATION. NOMINAL 1" THICK AB/PVC PIPE INSULATION MAY BE USED ON 3" PIPES AND SMALLER FOR A MAXIMUM 2-HR. FIRE-RATING.
5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
6. MINIMUM 1/4" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT, WHEN MAXIMUM ANNULAR SPACE DOES NOT EXCEED 1-1/2". WHEN MAXIMUM ANNULAR SPACE DOES EXCEED 1-1/2", APPLY MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 18".  
 2. ANNULAR SPACE [FOR 2-HR. FIRE-RATING] = MINIMUM 1/2", MAXIMUM 12".  
 3. ANNULAR SPACE [FOR 3-HR. FIRE-RATING] = MINIMUM 1/2", MAXIMUM 1-1/2".  
 4. HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.



**Hilti Firestop Systems**

HILTI, Inc.  
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Sheet	1 of 1
Scale	9/64" = 1"
Date	Jan. 06, 2015

Drawing No.

**CAJ  
5090h**