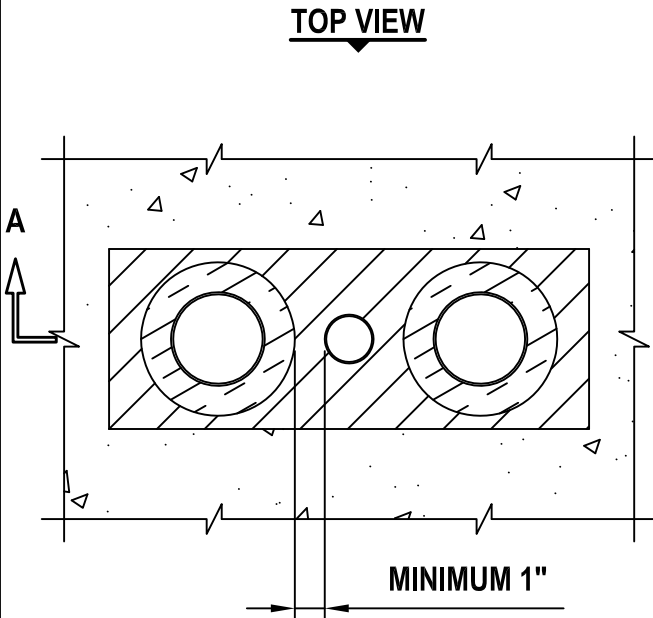


**SEAMLESS COPPER WATER TUBES THROUGH CONCRETE
FLOOR/WALL OR BLOCK WALL**

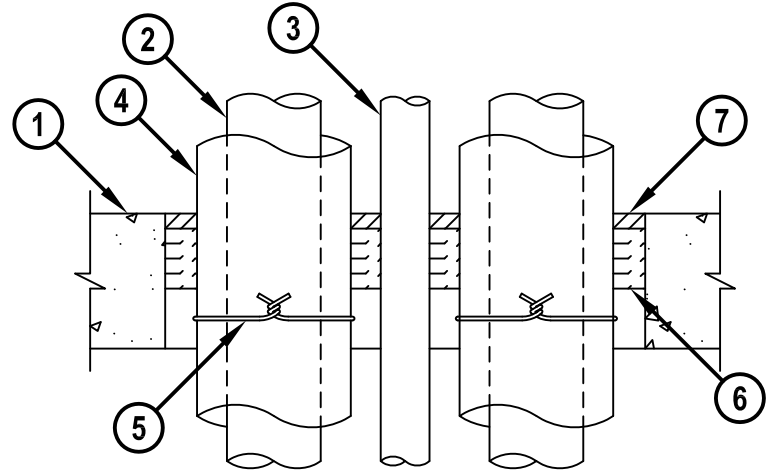
F-RATING = 3-HR.
T-RATING = 0-HR. OR 1-HR.

CAJ8038f.010615

TOP VIEW



SECTION A-A



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 CONCRETE BLOCK WALL.
2. MAXIMUM 3" NOMINAL DIAMETER COPPER WATER TUBE (TYPE M OR HEAVIER).
3. MAXIMUM 1-1/2" NOMINAL DIAMETER COPPER WATER TUBE (TYPE M OR HEAVIER).
4. MAXIMUM 1" THICK MINERAL FIBER INSULATION (UNFACED, NOMINAL 12 PCF DENSITY).
5. NO. 18 SWG STEEL TIE WIRE (SPACE 6" O.C. AND NO MORE THAN 3" FROM EACH SIDE OF BUTTED END SEAMS).
6. MINIMUM 2" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
7. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.

NOTES : 1. MAXIMUM AREA OF OPENING = 96 SQUARE INCHES WITH MAXIMUM DIMENSION OF 16 INCHES.
 2. ALL TUBING LARGER THAN NOMINAL 1-1/2" ARE REQUIRED TO BE INSULATED.
 3. ANNULAR SPACE = MINIMUM 1", MAXIMUM 2-1/4".
 4. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT, IS REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.



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

Sheet	1 of 1
Scale	5/32" = 1"
Date	Jan. 06, 2015

Drawing No.
**CAJ
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