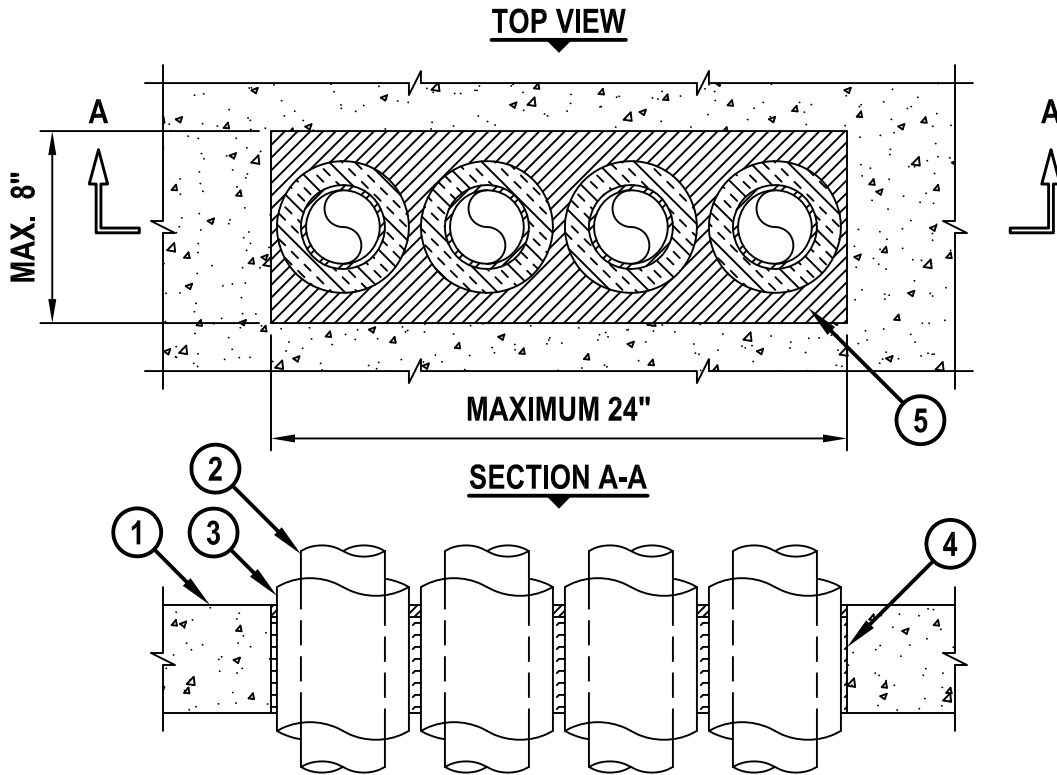


MULTIPLE INSULATED/NON-INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

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

L-RATING AT AMBIENT = 15 CFM / SQ FT
L-RATING AT 400°F = 1 CFM / SQ FT

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1. CONCRETE FLOOR OR WALL ASSEMBLY (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. PENETRATING ITEMS TO BE ANY COMBINATION OF THE FOLLOWING (MAX. QTY. = 4) :
 - A. MAXIMUM 3" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 3" NOMINAL DIAMETER COPPER PIPE OR COPPER TUBING.
3. NOMINAL 1" THICK GLASS-FIBER PIPE INSULATION.
4. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED TO ACCOMMODATE FIRESTOP SEALANT.
5. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.

NOTES : 1. MAXIMUM SIZE OF OPENING = 24" x 8".
 2. ANNULAR SPACE BETWEEN INSULATED PENETRANTS = MINIMUM 1-1/2", MAXIMUM 1-5/8".
 3. ANNULAR SPACE BETWEEN INSULATED PENETRANTS AND PERIPHERY OF OPENING = MINIMUM 1-5/8", MAXIMUM 2-1/2".
 4. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON EACH SIDE OF A WALL ASSEMBLY.



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Sheet	1 of 1
Scale	1/8" = 1"
Date	Jan. 24, 2015

Drawing No.
**CAJ
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