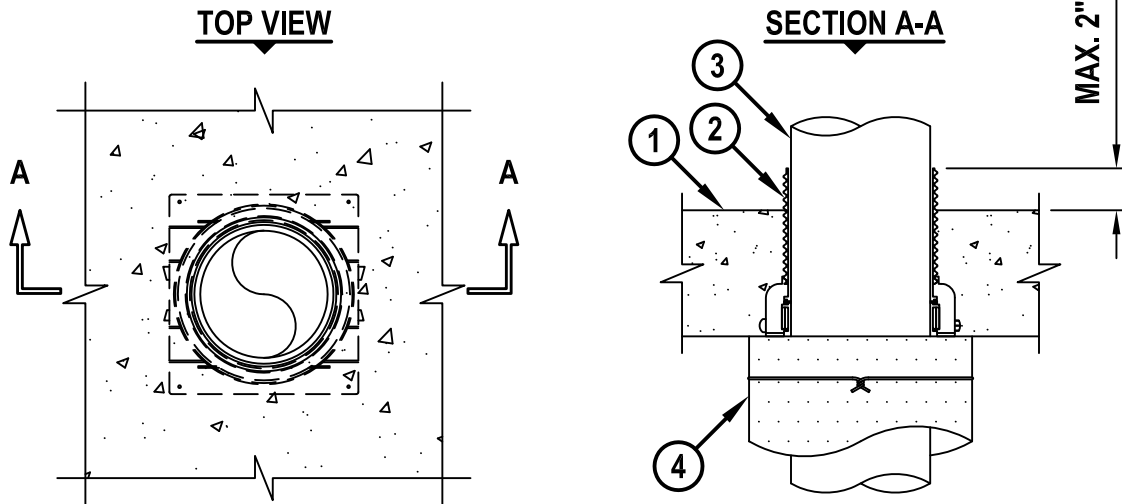


METAL PENETRANT THROUGH CONCRETE FLOOR ASSEMBLY

F-RATING = 2-HR.
T-RATING = 2-HR.

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1. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR ASSEMBLY (MINIMUM 6" THICK) (2-HR. FIRE-RATING).
2. HILTI CP 680-M, CP 680-P OR CP 680-PX CAST-IN FIRESTOP DEVICE, CAST OR GROUTED INTO CONCRETE FLOOR (SEE TABLE BELOW).
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING (ALSO SEE NOTE NO. 1 BELOW) :
 - A. MAXIMUM 6" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 6" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
 - C. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
 - D. MAXIMUM 4" NOMINAL DIAMETER EMT.
4. NOMINAL 2" THICK MINERAL FIBER PIPE INSULATION TO EXTEND MINIMUM 30" BELOW FLOOR ASSEMBLY. PIPE INSULATION TO BE TIGHTLY BUTTED TO BOTTOM OF FLOOR ASSEMBLY AND SECURED WITH 16 GA. STEEL TIE WIRE SPACED MAXIMUM 6" O.C. (SEE NOTE NO. 2 BELOW).

NOMINAL PIPE DIAMETER	PRODUCT DESCRIPTION	T-RATING
1-1/2" TO 2"	CP 680-M 2", CP 680-P 2", OR CP 680-PX 2"	2-HR.
3"	CP 680-M 3", CP 680-P 3", OR CP 680-PX 3"	2-HR.
3" TO 4"	CP 680-M 4" OR CP 680-P 4"	2-HR.
4" TO 6"	CP 680-M 6" OR CP 680-P 6"	2-HR.

NOTES : 1. PENETRANT MAY RUN VERTICALLY OR TURN 90° HORIZONTALLY BELOW FLOOR.
 2. IN ADDITION TO STEEL TIE WIRE, INSULATION SHALL BE WRAPPED WITH A UL APPROVED ALL SERVICE JACKET OR FOIL-SCRIM-KRAFT.
 3. WHEN PIPE DIAMETER IS SMALLER THAN INDICATED ABOVE, A MINIMUM 1" THICKNESS HILTI CP 618 FIRESTOP PUTTY STICK OR MINIMUM 4" THICKNESS TIGHTLY PACKED MINERAL WOOL (MIN. 4 PCF DENSITY) SHALL BE APPLIED BETWEEN THE PIPE AND PERIPHERY OF HILTI CAST-IN FIRESTOP DEVICE, FLUSH WITH TOP SURFACE OF DEVICE.



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Sheet	1 of 1
Scale	7/64" = 1"
Date	July 17, 2015

Drawing No.
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