

UL/cUL SYSTEM NO. F-A-1128

# METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY

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

T-RATING = 0-HR. OR 1/4-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT. (SEE NOTE BELOW)

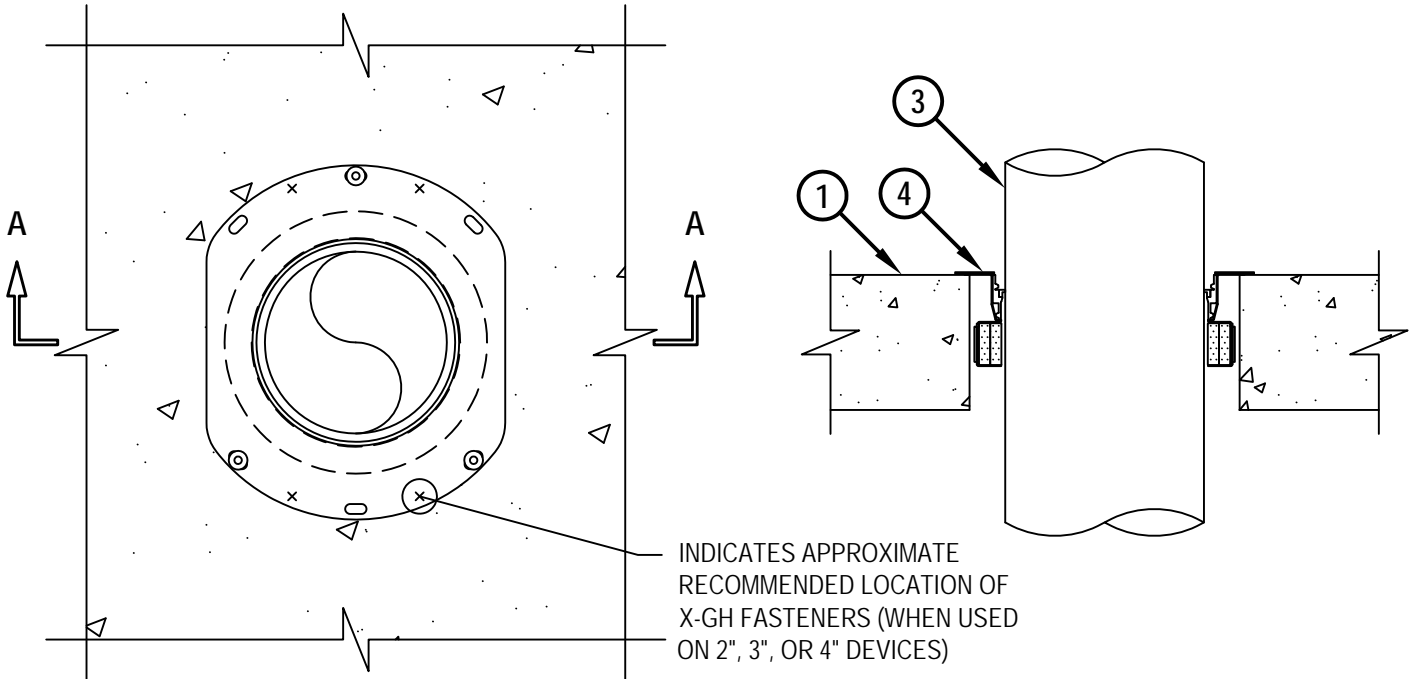
L-RATING AT 400°F = LESS THAN 1 CFM/SQ. FT. (SEE NOTE BELOW)

W-RATING = CLASS I (SEE NOTE BELOW)

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TOP VIEW

SECTION A-A



1. CONCRETE FLOOR ASSEMBLY (2-HR. OR 3-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" TO 8" THICK).
  - B. STEEL FLOOR UNIT/FLOOR ASSEMBLY - LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" TO 8" THICK) OVER METAL DECKING (UL CLASSIFIED D700, D800, OR D900 SERIES).
2. [OPTIONAL - NOT SHOWN] ANY OF THE FOLLOWING SLEEVES MAY BE USED :
  - A. NOMINAL 4", 5", OR 6" DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER) CAST OR GROUTED INTO FLOOR ASSEMBLY, FLUSH WITH FLOOR SURFACES.
  - B. NOMINAL 4", 5", 6", OR 9" DIAMETER GALVANIZED STEEL SLEEVE (MIN. 26 GA.) WITH SQUARE FLANGE SPOT WELDED TO BOTTOM OR MID-HEIGHT OF SLEEVE AND SIZED MINIMUM 2" LARGER THAN SLEEVE DIAMETER. SLEEVE IS TO BE CAST IN PLACE, AND MAY EXTEND A MAXIMUM 4" BELOW BOTTOM SURFACE OF FLOOR AND SIT FLUSH WITH TOP SURFACE OF FLOOR.



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

|       |              |
|-------|--------------|
| Sheet | 1 of 2       |
| Scale | 5/32" = 1"   |
| Date  | May 13, 2011 |

Drawing No.

**FA  
1128b**

**Saving Lives through Innovation and Education**

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3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :

- 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 COPPER PIPE OR TUBING.
- D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
- E. MAXIMUM 4" NOMINAL DIAMETER EMT.

4. HILTI CFS-DID FIRESTOP DROP-IN DEVICE INSERTED INTO OPENING (SEE TABLE BELOW) AND SECURED TO TOP OF FLOOR WITH THREE HILTI 1/4" (6mm) DIAMETER BY 1-1/4" (32mm) LONG KWIK-CON II+ CONCRETE SCREW ANCHORS, HILTI 1/4" (6mm) DIAMETER BY 1-3/4" (45mm) LONG KWIK BOLT 3 STEEL EXPANSION ANCHORS, OR HILTI 1/4" (6mm) BY 3/4" (19mm) LONG METAL HIT ANCHORS (INSTALLED IN A TRIANGULAR FASHION THROUGH HOLES PROVIDED). IN ADDITION, FOR NOMINAL 2", 3", AND 4" DEVICES, FOUR 11/16" (18mm) LONG HILTI X-GH P18 MX STEEL FASTENERS MAY BE INSTALLED THROUGH THE STEEL FLANGE, TWO ON EACH SIDE.

| MINIMUM CONCRETE THICKNESS | CORE HOLE OR SLEEVE DIAMETER | PRODUCT DESCRIPTION | NOMINAL PIPE DIAMETER | F-RATING |
|----------------------------|------------------------------|---------------------|-----------------------|----------|
| 2-1/2"                     | 4"                           | CFS-DID 2" MD       | 2" (OR SMALLER)+      | 2-HR.    |
| 2-1/2"                     | 5"                           | CFS-DID 3" MD       | 3"                    | 2-HR.    |
| 2-1/2"                     | 6"                           | CFS-DID 4" MD       | 4"                    | 2-HR.    |
| 2-1/2"                     | 9"                           | CFS-DID 6" MD       | 6"                    | 2-HR.    |
| 4-1/2"                     | 4"                           | CFS-DID 2" MD       | 2" (OR SMALLER)+      | 3-HR.    |
| 4-1/2"                     | 5"                           | CFS-DID 3" MD       | 3"                    | 3-HR.    |
| 4-1/2"                     | 6"                           | CFS-DID 4" MD       | 4"                    | 3-HR.    |
| 4-1/2"                     | 9"                           | CFS-DID 6" MD       | 6"                    | 3-HR.    |

+ FOR PIPE SMALLER THAN NOMINAL 2" DIAMETER, AN ADAPTER AND HILTI IPS OR CPS TOP SEAL PLUG MUST BE USED IN CONJUNCTION WITH THE CFS-DID 2" MD DEVICE.

NOTE : [OPTIONAL] TO ACHIEVE W-RATING AND/OR L-RATING, WATER BARRIER MODULES MAY BE THREADED ON TOP OF CFS-DID DEVICES FOR NOMINAL 2", 3", 4", AND 6" PIPES (LISTED ABOVE).



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