

UL/cUL SYSTEM NO. F-A-5018

**INSULATED METAL PIPE THROUGH CONCRETE FLOOR OR  
CONCRETE OVER METAL DECKING ASSEMBLY**

F-RATING = 3-HR.

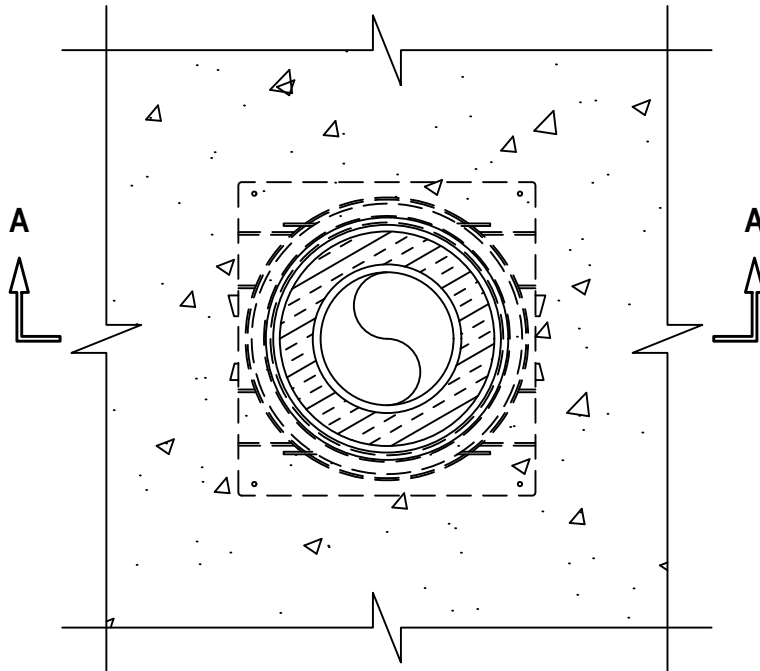
T-RATING = 1-3/4-HR., 2-HR., 2-1/2-HR., 2-3/4-HR., OR 3-HR. (SEE TABLE BELOW)

L-RATING AT AMBIENT = SEE TABLE BELOW

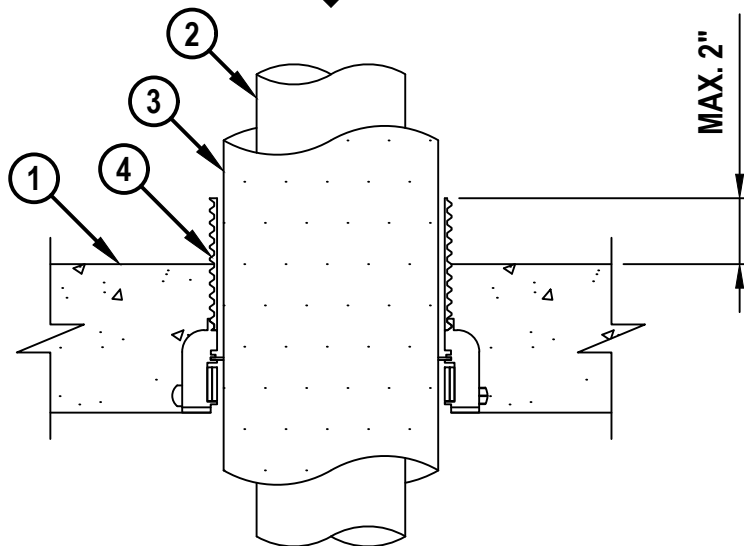
L-RATING AT 400°F = SEE TABLE BELOW

FA5018h.052021

**TOP VIEW**



**SECTION A-A**



HILTI, Inc.  
Plano, Texas USA (800) 879-8000

|       |              |
|-------|--------------|
| Sheet | 1 of 2       |
| Scale | 1 1/64" = 1" |
| Date  | May 20, 2021 |

Drawing No.  
**FA  
5018h**

*Saving Lives through Innovation and Education*

**INSULATED METAL PIPE THROUGH CONCRETE FLOOR OR  
CONCRETE OVER METAL DECKING ASSEMBLY**

F-RATING = 3-HR.

T-RATING = 1-3/4-HR., 2-HR., 2-1/2-HR., 2-3/4-HR., OR 3-HR. (SEE TABLE BELOW)

L-RATING AT AMBIENT = SEE TABLE BELOW

L-RATING AT 400°F = SEE TABLE BELOW

FA5018h.052021

1. CONCRETE FLOOR ASSEMBLY (3-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK).
  - B. STEEL FLOOR UNIT/FLOOR ASSEMBLY - LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK) OVER METAL DECKING.
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE OR TUBING.
3. NOMINAL 1", 1-1/2" OR 2" THICK GLASS-FIBER PIPE INSULATION.
4. HILTI CP 680-M, CP 680-P, OR CP 680-PX CAST-IN FIRESTOP DEVICE CAST OR GROUTED INTO CONCRETE FLOOR (SEE TABLE BELOW).

| NOM PIPE DIAMETER, IN. (MM)<br>(SEE NOTE 2 AND 3) | NOM THICK OF PIPE COVERING, IN. (MM) | FIRESTOP DEVICE                        | T, FT AND FTH RATINGS, HR | L RATING AT AMBIENT CFM/SQ FT (L/S/M <sup>2</sup> ) | L RATING AT 400°F (204°C) CFM/SQ FT (L/S/M <sup>2</sup> ) |
|---|--------------------------------------|--|---------------------------|---|---|
| 1/2 (13)  | 1 (25)                               | CP 680-P 2", CP 680-PX 2"              | 2-1/2                     | 3 (15.2)  | 1.5 (7.6)   |
| 1/2 (13)  | 1 (25)                               | CP 680-M 2"                            | 2-3/4                     | 3 (15.2)  | 1.5 (7.6)   |
| 1 (25)  | 1 (25)                               | CP 680-M 3", CP 680-P 3", CP 680-PX 3" | 1-3/4                     | 3 (15.2)  | 1.5 (7.6)   |
| 1 (25) (SEE NOTE 2)                               | 1-1/2 (38)                           | CP 680-M 4"                            | 3                         | N/A   | N/A   |
| 2 (51)  | 1 (25)                               | CP 680-M 4"                            | 1-3/4                     | 3 (15.2)  | 1.5 (7.6)   |
| 2 (51)  | 1 (25)                               | CP 680-P 4"                            | 2-3/4                     | 3 (15.2)  | 1.5 (7.6)   |
| 2 (51)  | 2 (51)                               | CP 680-P 6", CP 680-M 6"               | 2-3/4                     | LESS THAN 1 (LESS THAN 5.1)                         | LESS THAN 1 (LESS THAN 5.1)                               |
| 4 (102)   | 1 (25)                               | CP 680-P 6", CP 680-M 6"               | 2                         | 3 (15.2)  | 1.5 (7.6)   |

- NOTES :**
1. FOR CONCRETE FLOOR OVER METAL DECKING APPLICATIONS, A METAL DECK ADAPTER KIT IS REQUIRED.
  2. WHEN USING A NOMINAL 1" DIAMETER PIPE WITH 1-1/2" THICK INSULATION IN A 4" DEVICE, TIGHTLY PACK A MINIMUM 2" THICKNESS OF MINERAL WOOL (MIN. 4 PCF DENSITY) AROUND PIPE FLUSH WITH THE TOP OF FIRESTOP DEVICE.
  3. WHEN PIPE SIZES ARE LESS THAN THOSE SHOWN IN THE TABLE, TIGHTLY PACK A MINIMUM 4" THICKNESS OF MINERAL WOOL (MIN. 4 PCF DENSITY) AROUND PIPE FLUSH WITH THE TOP OF FIRESTOP DEVICE.



HILTI, Inc.  
Plano, Texas USA (800) 879-8000

|       |              |
|-------|--------------|
| Sheet | 2 of 2       |
| Scale | -            |
| Date  | May 20, 2021 |

Drawing No.

**FA  
5018h**