

UL/cUL SYSTEM NO. F-A-1134

# METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY

F-RATING = 2-HR.

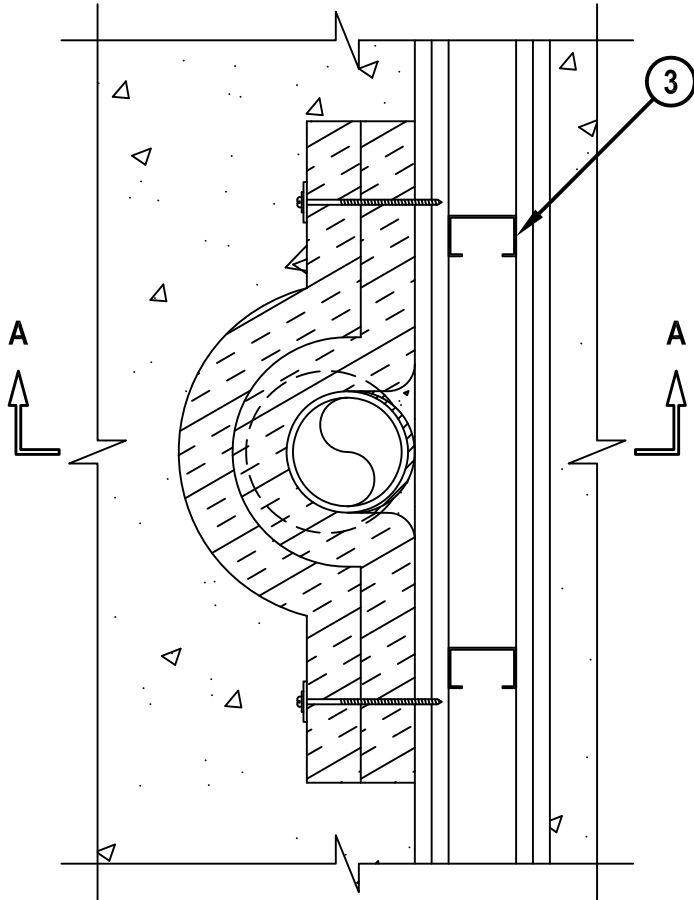
T-RATING = 2-HR.

L-RATING AT AMBIENT = LESS THAN 1 CFM / SQ FT

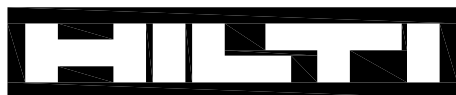
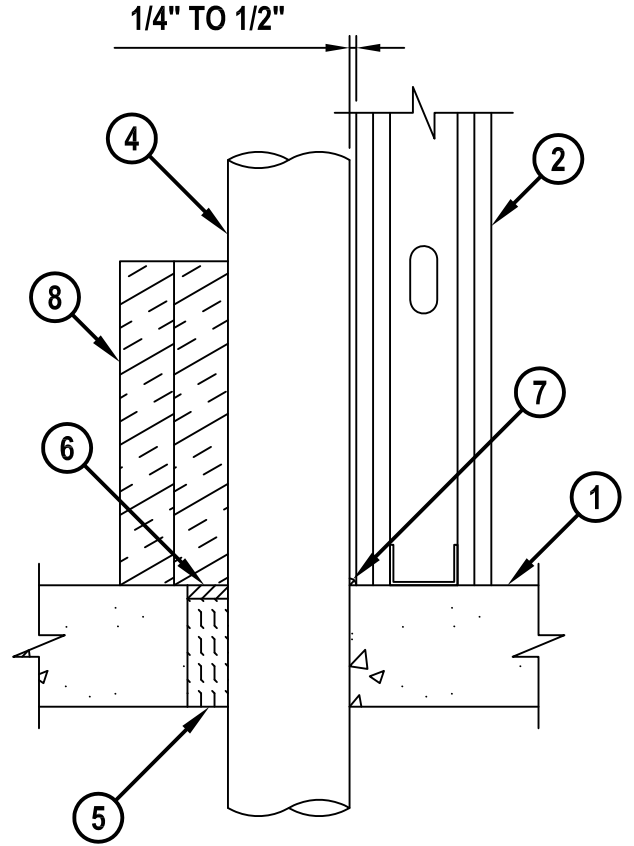
L-RATING AT 400° F = 4 CFM / SQ FT

FA1134b.010715

**TOP VIEW**



**SECTION A-A**



**Hilti Firestop Systems**

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

Sheet	1 of 2
Scale	9/64" = 1"
Date	Jan. 07, 2015

Drawing No.

**FA  
1134b**

*Saving Lives through Innovation and Education*

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L-RATING AT 400° F = 4 CFM / SQ FT

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1. CONCRETE FLOOR ASSEMBLY (2-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 2-1/2" THICK) OVER METAL DECKING (UL/cUL CLASSIFIED D700, D800, OR D900 SERIES).
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
3. [NOT SHOWN] WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER (SPACED MAXIMUM 16" OC). STEEL STUDS TO BE MINIMUM 2-1/2" WIDE (SPACED MAXIMUM 24" OC).
4. PENETRATING ITEM TO BE ONE OF THE FOLLOWING (SEE NOTE NO. 3 BELOW) :
  - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).
  - B. MAXIMUM 4" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
  - C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT OR EMT.
5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED TO ACCOMMODATE SEALANT.
6. MINIMUM 1/2" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT FLUSH WITH THE TOP SURFACE OF FLOOR.
7. MINIMUM 1/4" BEAD HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.
8. TWO LAYERS OF ONE OF THE FOLLOWING DUCT WRAP MATERIALS TIGHTLY BUTTED TO THE TOP SURFACE OF FLOOR AND TO EXTEND MINIMUM 12" ABOVE FLOOR. DUCT WRAP TO BE TIGHTLY WRAPPED AROUND EXPOSED PORTION OF PENETRANT AND BENT 90° AT FACE OF WALL AND TO EXTEND MINIMUM 6-3/4" FROM EACH SIDE OF PIPE. EACH END OF THE DUCT WRAP IS SECURED TO THE GYPSUM WALL WITH MINIMUM TWO NO. 12 x 5" STEEL SCREWS AND 1-1/4" DIAMETER WASHERS LOCATED MAXIMUM 2" FROM EDGES AND 8" C/C.
  - A. NOMINAL 2" THICK FIBERGLASS DUCT WRAP (MIN. 1 PCF DENSITY).
  - B. NOMINAL 1-1/2" OR 2" THICK FIREMASTER® FASTWRAP® XL DUCT INSULATION (MANUFACTURED BY THERMAL CERAMICS, INC.).
  - C. NOMINAL 1-1/2" OR 2" THICK FYREWAP® DUCT INSULATION OR FIREWRAP DUCT 1.5 INSULATION (MANUFACTURED BY UNIFRAX I LLC).

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 6".  
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-1/2".  
 3. THE SPACE BETWEEN THE PENETRANT AND THE FACE OF THE GYPSUM WALL SHALL BE 1/4" TO 1/2".



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