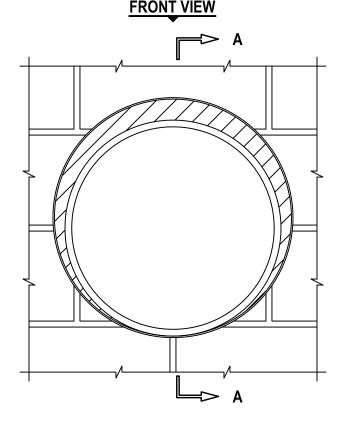
## UL/cUL SYSTEM NO. W-J-1021

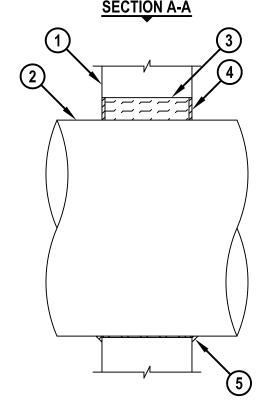
## METAL PIPE THROUGH CONCRETE WALL OR BLOCK WALL

F-RATING = 2-HR. T-RATING = 0-HR.

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

L-RATING AT 400°F = 4 CFM / SQ FT





- 1. CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING):
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5" THICK).
  - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
- 2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
  - A. MAXIMUM 18" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 4" NOMINAL DIAMETER COPPER TUBING (TYPE L OR HEAVIER).
- 3. MINIMUM 4-1/2" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
- 4. MINIMUM 1/4" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT.
- 5. MINIMUM 1/2" CROWN HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.
- NOTES: 1. FOR STEEL PIPE, THE ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-3/4". FOR COPPER PIPE, THE ANNULAR SPACE = MINIMUM 0", MAXIMUM 3".
  - 2. DIAMETER OF OPENING SHALL BE 3/8" TO 2-3/4" LARGER THAN THE DIAMETER OF THE PIPE.
  - 3. T-RATING = 1/4-HR. WHEN STEEL PIPE IS USED.
  - 4. FOR HOLLOW BLOCK WALLS, USE NO. 8 STEEL WIRE MESH TO AID IN THE INSTALLATION.



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

Sheet	1 of 1
Scale	1/8" = 1"
Date	Jan. 08, 2015

WJ 1021f

Saving Lives through Innovation and Education