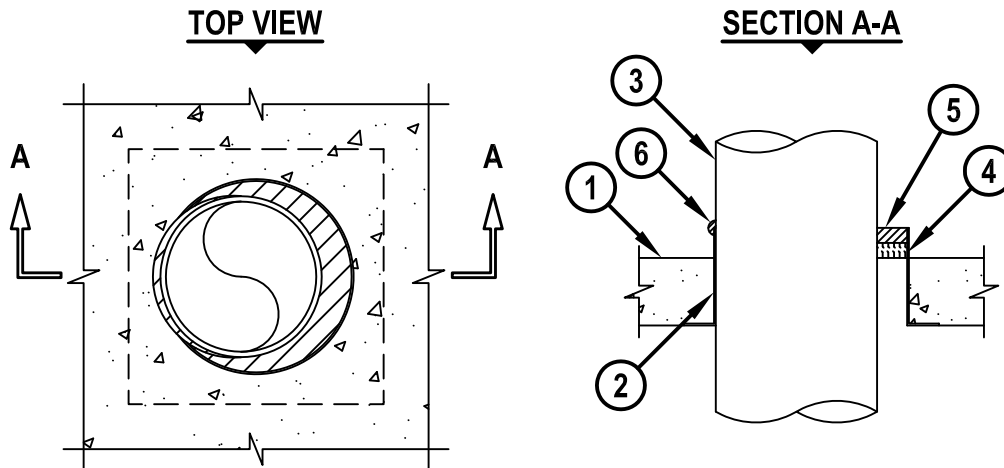


# METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL

F-RATING = 2-HR.

FT, FH, OR FTH-RATINGS = 0-HR.



cUL CAJ1023d.011715

1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 2-1/2" THICK).
  - B. STEEL FLOOR UNIT/FLOOR ASSEMBLY - LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" THICK) OVER METAL DECKING (MAX. 3" FLUTES) (UL/cUL CLASSIFIED D900 SERIES).
  - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. [OPTIONAL] ANY OF THE FOLLOWING STEEL SLEEVES MAY BE CAST OR GROUTED INTO ASSEMBLY :
  - A. STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER) MAY EXTEND MAXIMUM 2" ABOVE FLOOR OR BEYOND EITHER SURFACE OF WALL.
  - B. GALVANIZED STEEL SLEEVE (MIN. 26 GA.) WITH SQUARE FLANGE SPOT WELDED TO THE BOTTOM OF THE SLEEVE AND SIZED MINIMUM 2" LARGER THAN THE SLEEVE DIAMETER. SLEEVE MAY EXTEND MAXIMUM 2" ABOVE TOP SURFACE OF FLOOR WHEN SLEEVE DIAMETER IS 13" OR SMALLER.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 30" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 30" 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. MINIMUM 1" THICKNESS HILTI CF-AS CJP OR CF 812 FILLER FOAM, POLYETHYLENE BACKER ROD, MINERAL WOOL, OR GLASS-FIBER INSTALLED AS A BACKER.
5. MINIMUM 1" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED FLUSH WITH TOP OF SLEEVE/FLOOR.
6. MINIMUM 1/2" BEAD HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 30-7/8".  
 2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 2-7/8".  
 3. MINIMUM 1" DEPTH HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.

<p><b>Hilti Firestop Systems</b></p>	<p>HILTI, Inc. Tulsa, Oklahoma USA (800) 879-8000</p>	Sheet	1 of 1	Drawing No. <b>cUL</b> <b>CAJ1023d</b>
		Scale	5/64" = 1"	
		Date	Jan. 17, 2015	
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