

**METAL PIPE THROUGH CONCRETE FLOOR/WALL OF BLOCK WALL ASSEMBLY**

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

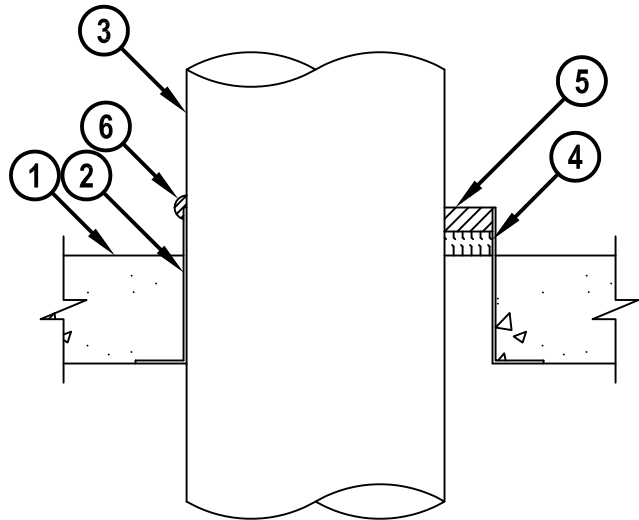
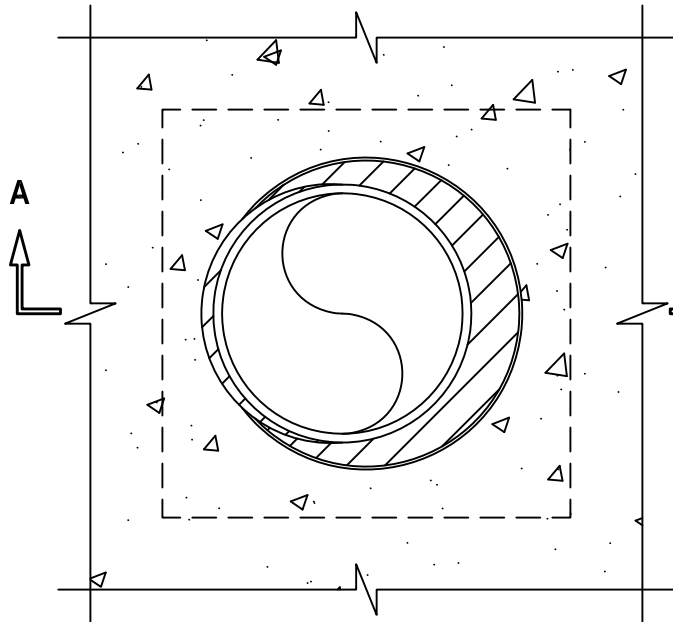
T-RATING = 0-HR.

W-RATING = CLASS I (SEE NOTE NO. 4 BELOW)

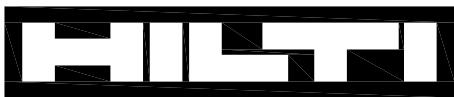
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**TOP VIEW**

**SECTION A-A**



1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. OR 3-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.
  - D. ANY UL/cUL CLASSIFIED PRECAST (HOLLOW-CORE) CONCRETE FLOOR (MINIMUM 6" THICK).
2. [OPTIONAL] ANY OF THE FOLLOWING STEEL SLEEVES MAY BE USED :
  - A. STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER) MAY EXTEND MAXIMUM 8" 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.



**Hilti Firestop Systems**

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

Sheet	1 of 2
Scale	1/8" = 1"
Date	Mar. 28, 2015

Drawing No.

**CAJ  
1575e**

**METAL PIPE THROUGH CONCRETE FLOOR/WALL OF BLOCK WALL ASSEMBLY**

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

T-RATING = 0-HR.

W-RATING = CLASS I (SEE NOTE NO. 4 BELOW)

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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 (SEE TABLE BELOW).
5. HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED FLUSH WITH TOP OR BOTTOM OF SLEEVE/FLOOR (DEPTH AND LOCATION OF SEALANT DEPENDENT UPON TABLE BELOW).
6. MINIMUM 1/2" BEAD HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

MINIMUM FLOOR/WALL THICKNESS	NOMINAL DIAMETER OF COPPER PIPE OR TUBE	NOMINAL DIAMETER OF STEEL/IRON PIPE OR CONDUIT	ANNULAR SPACE (MINIMUM TO MAXIMUM)	MINIMUM SEALANT THICKNESS	SEALANT FLUSH WITH TOP OR BOTTOM	SLEEVE	PACKING MATERIAL	F-RATING
2-1/2"	1/2" TO 4"	1/2" TO 30"	0" TO 7/8"	1/2"	TOP	NO	NO	2
2-1/2"	1/2" TO 4"	1/2" TO 8"	0" TO 2-7/8"	1"	TOP	YES	NO	2
2-1/2"	1/2" TO 4"	1/2" TO 8"	0" TO 1-7/8"	1/2"	TOP	YES	NO	2
2-1/2"	1/2" TO 4"	1/2" TO 12"	0" TO 7/8"	1"	BOTTOM	YES	NO	2
2-1/2"	1/2" TO 4"	1/2" TO 8"	0" TO 2-7/8"	1"	TOP	OPTIONAL	YES	2
2-1/2"	1/2" TO 6"	1/2" TO 30"	0" TO 2-7/8"	1"	TOP	YES	YES	2
4-1/2"	1/2" TO 4"	1/2" TO 10"	0" TO 3-1/4"	1"	TOP OR BOTTOM	NO	NO	3
4-1/2"	1/2" TO 4"	1/2" TO 30"	0" TO 7/8"	1/2"	TOP	NO	NO	3
4-1/2"	1/2" TO 4"	1/2" TO 8"	0" TO 1-7/8"	1/2"	BOTTOM	NO	NO	2

**NOTES :** 1. MAXIMUM DIAMETER OF OPENING = 30-7/8" FOR NORMAL CONCRETE, 7" FOR PRECAST (HOLLOW-CORE) CONCRETE.  
 2. WHEN PRECAST (HOLLOW-CORE) UNITS ARE USED, HILTI FS-ONE MAX OR FS-ONE SHALL BE INSTALLED FLUSH WITH LOWER SURFACE OF FLOOR.  
 3. HILTI FS-ONE MAX OR FS-ONE IS REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.  
 4. W-RATING ONLY APPLIES WHEN FS-ONE MAX IS USED. FOR W-RATING, PACKING MATERIAL TO BE MINIMUM 4" THICK AND FS-ONE MAX INSTALLED FLUSH WITH TOP SIDE OF SLEEVE/FOOR. AN ADDITIONAL 1/2" BEAD SHALL BE APPLIED AT SLEEVE/CONCRETE INTERFACE.



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