

**CABLE BUNDLE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY**

F-RATING = 2-HR.

T-RATING = 0-HR. OR 3/4-HR.

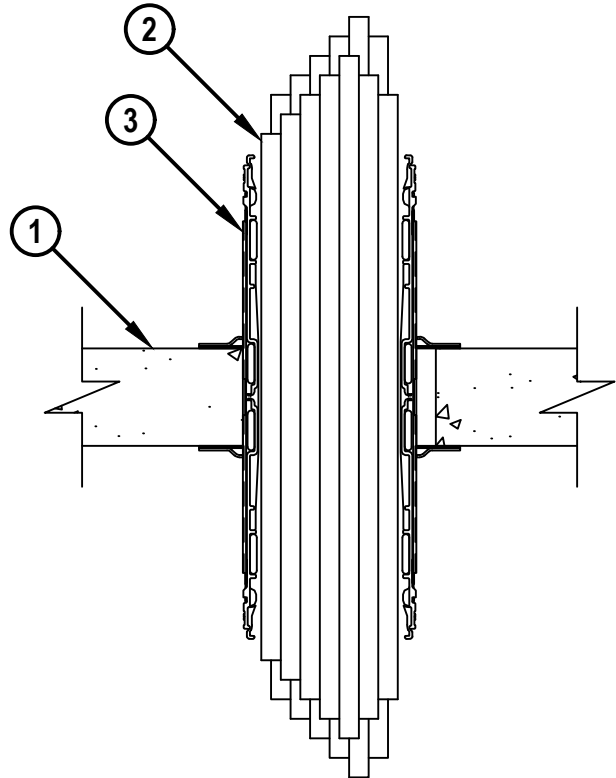
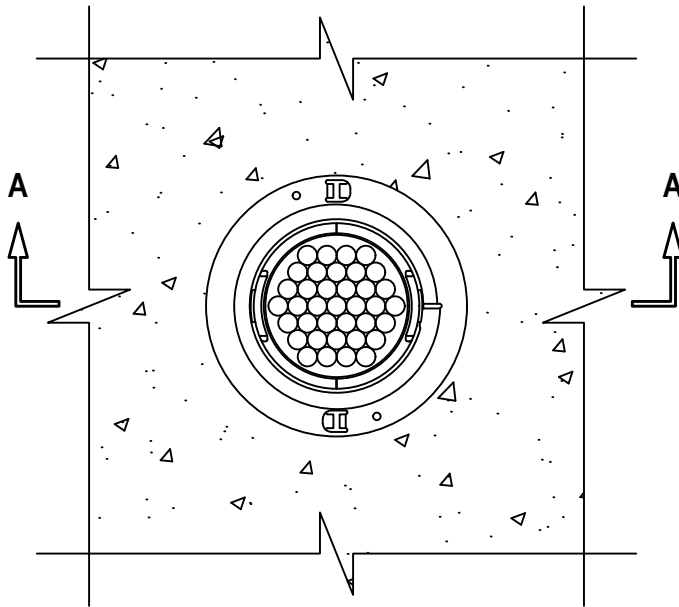
L-RATING AT AMBIENT = LESS THAN 1 CFM (SEE TABLE)

L-RATING AT 400°F = LESS THAN 1 CFM (SEE TABLE)

CAJ3281f.011617

**TOP VIEW**

**SECTION A-A**



- 1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 2-1/2" THICK).
  - B. ANY UL/cUL CLASSIFIED PRECAST (HOLLOW-CORE) CONCRETE FLOOR (MINIMUM 6" THICK).
  - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.



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

Sheet	1 of 2
Scale	13/64" = 1"
Date	Jan. 16, 2017

Drawing No.  
**CAJ  
3281f**

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  - C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. CABLE BUNDLE TO BE A COMBINATION OF ANY OF THE FOLLOWING :
  - A. MAXIMUM 100 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
  - B. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR CONTROL CABLE WITH PVC OR XLPE JACKET AND INSULATION.
  - C. MAXIMUM 4/0 AWG TYPE RHH GROUND CABLE.
  - D. MAXIMUM 4 PAIR NO. 22 AWG CAT 6 COMPUTER CABLE.
  - E. MAXIMUM RG 6/U COAXIAL CABLE.
  - F. MAXIMUM 1/2" DIAMETER FIBER-OPTIC CABLE (24 FIBER) WITH PVC OR PE JACKET AND INSULATION.
  - G. MAXIMUM 20/C NO. 22 AWG SHIELDED PRINTER CABLE WITH PVC JACKET.
  - H. MAXIMUM 2/C NO. 18 AWG POWER OR NON-POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT METAL JACKET (MANUFACTURED BY AFC CABLE SYSTEMS, INC).
  - I. MAXIMUM 1/4" DIAMETER S-VIDEO CABLE CONSISTING OF MAXIMUM 24 AWG 75 OHM COAX OR TWISTED PAIR CABLE WITH PE INSULATION AND PVC JACKET.
  - J. ANY CABLES, METAL CLAD CABLES, OR ARMORED CABLES CURRENTLY LISTED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.
  - K. MAXIMUM 3/C NO. 12 AWG METAL CLAD CABLE.
3. HILTI CP 653 (BA) SPEED SLEEVE (2" OR 4") SLID INTO AND CENTERED WITHIN FLOOR OR WALL. DEVICE FLANGES SPUN CLOCKWISE ONTO DEVICE THREADS OVER SMOKE GASKET, BUTTING TIGHTLY TO BOTH SIDES OF FLOOR OR WALL.

MAX CABLE FILL	CABLE TYPE	SEALANT / GASKET		SEALANT / GASKET	
		L RATING, CFM/SQ FT		L RATING, CFM	
		AMBIENT	400°F	AMBIENT	400°F
0%	—	1	2	LESS THAN 1	LESS THAN 1
100%	ANY CABLES (ITEM NO. 2) IN ANY COMBINATION	7	7	LESS THAN 1	LESS THAN 1

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 3" (FOR 2" DEVICE) OR 5" (FOR 4" DEVICE).  
 2. CABLES MAY REPRESENT 0 TO 100% VISUAL FILL OF DEVICE.  
 3. MINIMUM ANNULAR SPACE BETWEEN DEVICE AND PERIPHERY OF OPENING = 0".  
 4. [OPTIONAL] AS AN ALTERNATE TO SMOKE GASKET, MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR HILTI CP 606 FLEXIBLE FIRESTOP SEALANT FLUSH WITH TOP SURFACE OF FLOOR WITH AN ADDITIONAL 1/4" BEAD APPLIED AT POINT OF CONTACT. FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.



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