

CABLE BUNDLE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

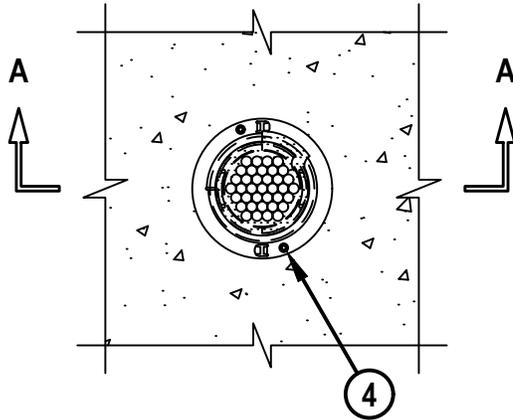
F-RATING = 2-HR.

T-RATING = 2-HR.

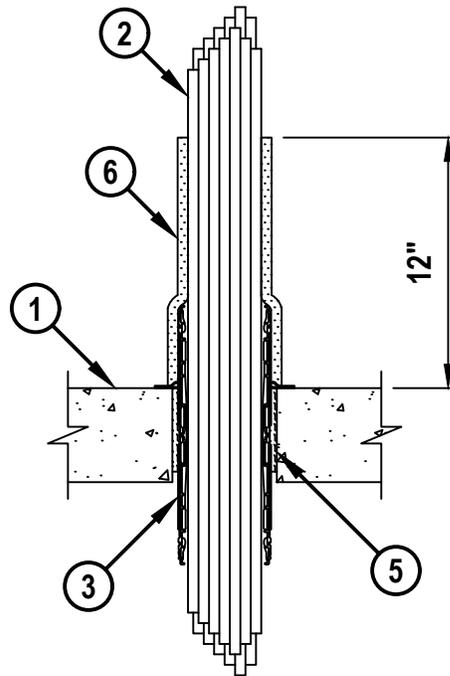
L-RATING AT AMBIENT = LESS THAN 1 CFM (SEE TABLE)

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

TOP VIEW



SECTION A-A



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1. CONCRETE FLOOR OR WALL ASSEMBLY (2-HR. FIRE-RATING) :
 - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2" THICK).
 - B. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5" THICK).
 - C. ANY UL/cUL CLASSIFIED PRECAST (HOLLOW-CORE) CONCRETE FLOOR (MINIMUM 6" THICK).
 - D. 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 AND 23 AWG CAT 6 AND CAT 7 COMPUTER CABLE.
 - E. MAXIMUM RG 6/U COAXIAL CABLE.
 - F. MAXIMUM 5/8" DIAMETER FIBER-OPTIC CABLE (48 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 TWO MAXIMUM 24 AWG 75 OHM COAX OR TWISTED PAIR CABLE WITH PE INSULATION AND PVC JACKET.



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

Sheet	1 of 2
Scale	7/64" = 1"
Date	Nov. 17, 2021

Drawing No.
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CABLE BUNDLE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL ASSEMBLY

F-RATING = 2-HR.

T-RATING = 2-HR.

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

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

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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 TOP SIDE OF FLOOR, OR BOTH SIDES OF WALL (SEE NOTE NO. 4 BELOW).
4. SECURE DEVICE FLANGE TO TOP OF FLOOR WITH TWO 1-1/4" LONG CONCRETE SCREWS OR ANCHORS.
5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED FLUSH WITH BOTTOM OF FLOOR AND RECESSED FROM TOP SURFACE OF FLOOR, OR BOTH SURFACES OF WALL, TO ACCOMMODATE FIRESTOP SEALANT.
6. ONE LAYER OF HILTI CFP-ES ENDO-SHIELD TIGHTLY WRAPPED AROUND DEVICE SLEEVE AND PENETRANT, EXTENDING 12" ABOVE THE FLOOR WITH A 2" OVERLAP AT SEAM. SEAM TO BE SEALED WITH FOIL-SCRIM-KRAFT OR FOIL TAPE. IN WALLS, PIPE COVERING TO BE INSTALLED ON BOTH SIDES OF 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. ANNULAR SPACE BETWEEN DEVICE AND PERIPHERY OF OPENING = MINIMUM 0", MAXIMUM 1/2".
 4. AS AN OPTION IN FLOORS, STEEL SLEEVE OF DEVICE MAY BE INSTALLED FLUSH WITH BOTTOM OF FLOOR.
 5. AS AN ALTERNATE TO SMOKE GASKET, MINIMUM 1/2" DEPTH HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR CP 606 FLEXIBLE FIRESTOP SEALANT FLUSH WITH TOP SURFACE OF FLOOR, OR BOTH SURFACES OF WALL. ADDITIONAL 1/4" BEAD OF HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR HILTI CP 606 FLEXIBLE FIRESTOP SEALANT APPLIED AT POINT OF CONTACT. FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.



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