

UL/cUL SYSTEM NO. F-A-3085

MULTIPLE CABLE BUNDLES THROUGH CONCRETE FLOOR ASSEMBLY

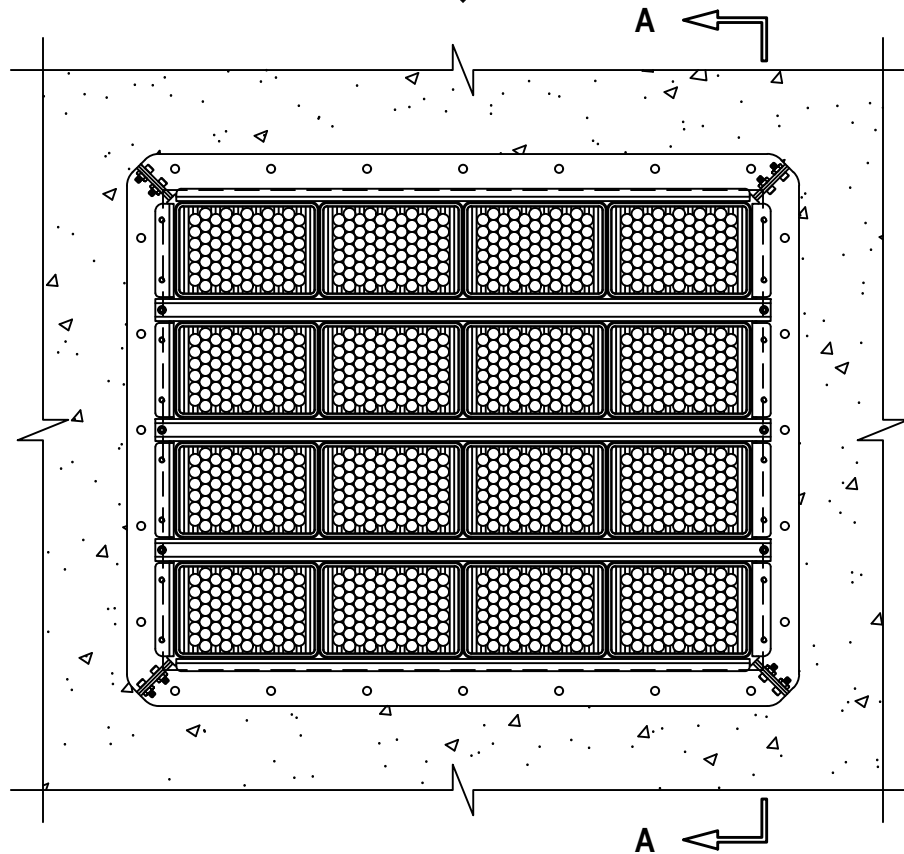
F-RATING = 2-HR. OR 3-HR. (SEE ITEM 1)

T-RATING = 0-HR., 1/2-HR., 3/4-HR., OR 1-HR. (SEE TABLE BELOW)

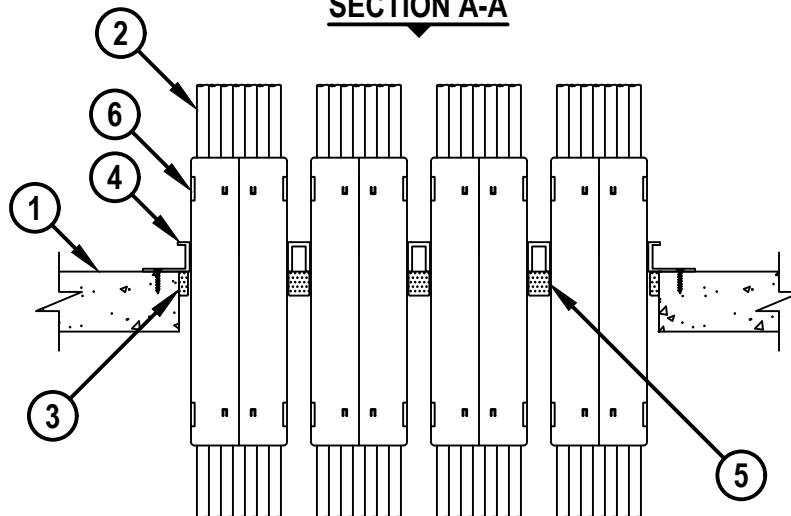
L-RATING AT AMBIENT = SEE TABLE BELOW

L-RATING AT 400°F = SEE TABLE BELOW

TOP VIEW



SECTION A-A



FA3085e.061925



Hilti Firestop Systems

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

Sheet	1 of 4
Scale	1/8" = 1"
Date	June 19, 2025

Drawing No.

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1. CONCRETE FLOOR ASSEMBLY (2-HR. OR 3-HR. FIRE-RATING) :

A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" THICK FOR 2-HR., AND MINIMUM 4-1/2" THICK FOR 3-HR.).

B. STEEL FLOOR UNIT/FLOOR ASSEMBLY - LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 2-1/2" THICK FOR 2-HR., AND MINIMUM 4-1/2" THICK FOR 3-HR.) OVER METAL DECKING (UL/cUL CLASSIFIED D900 SERIES).

2. CABLE BUNDLE TO BE ANY COMBINATION OF THE FOLLOWING :

A. MAXIMUM 100 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET AND INSULATION.

A1. MAXIMUM 200 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET AND INSULATION.

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 23 AWG CAT 7 COMPUTER CABLE.

E. MAXIMUM RG 6/U COAXIAL CABLE WITH FLUORINATED ETHYLENE INSULATION AND JACKETING.

F. MAXIMUM 21/32" (16.6 MM) FIBER-OPTIC CABLE WITH PVC OR PE JACKET AND INSULATION.

G. MAXIMUM 20/C NO. 22 AWG SHIELDED PRINTER CABLE WITH PVC JACKET.

H. MAXIMUM 1/4" DIAMETER S-VIDEO CABLE CONSISTING OF 2 MAX 24 AWG 75 OHM COAX OR TWISTED PAIR CABLE WITH PE INSULATION AND PVC JACKET.

I. 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.).

J. MAXIMUM 3/C NO. 12 AWG METAL CLAD CABLE.

K. ANY CABLES, METAL-CLAD CABLES, OR ARMORED CABLES CURRENTLY LISTED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.

3. HILTI CFS-TTS OS OR CFS-TTS R OS FIRESTOP TOP TRACK SEAL CUT IN HALF LENGTHWISE AT DOTTED LINE OR TEAR STRIP, AND CUT 1" LONGER THAN FLOOR OPENING ON EACH SIDE. ADHESIVE STRIP PLACED ON TOP OF FLOOR WITH FOAM EDGE HANGING OVER EDGE OF CONCRETE INTO OPENING PRIOR TO INSTALLATION OF FLOOR GRID.**4. HILTI CFS-MSL FGR [18" x 4", 18" x 9", 24" x 4", 24" x 9", 24" x 14", OR 24" x 19"] WITH VARYING NUMBER OF SEPARATION BARS BASED ON GRID SIZE. FLOOR GRID TO BE PLACED AROUND OPENING OVER CFS-TTS (ITEM 3) AND ANCHORED TO FLOOR WITH TWO 1-1/2" LONG CONCRETE SCREWS AT PRE-DRILLED HOLE IN EACH RAIL.****5. HILTI CFS-TTS 358, CFS-TTS OS, OR CFS-TTS R OS FIRESTOP TOP TRACK SEAL CENTERED AND DRAPED OVER STEEL SEPARATION BARS PRIOR TO INSTALLATION OF SLEEVES (SEE NOTE NO. 3 BELOW).****6. HILTI CFS-MSL [S, M, OR L] MODULAR SLEEVES TO BE GANGED TOGETHER WITH GANGING CLIPS AND BOLTED TO FLOOR GRID WITH PROVIDED SUPPORT BRACKETS, IN ACCORDANCE WITH ACCOMPANYING INSTALLATION INSTRUCTIONS. FIRESTOP DEVICES TO COMPLETELY FILL ACROSS ENTIRE WIDTH OF EACH ROW OF FLOOR GRID.****Hilti Firestop Systems**HILTI, Inc.
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Sheet 2 of 4

Scale -

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L-RATING AT AMBIENT = SEE TABLE BELOW

L-RATING AT 400°F = SEE TABLE BELOW

DEVICE	MAX CABLE FILL	CABLE TYPE	L-RATING CFM/DEVICE	
			AMBIENT	400°F
CFS-MSL S	0%	-	1.3	LESS THAN 1
CFS-MSL S	1-25%	3B, 3D, 3E, 3G, 3H	1.1	1.5
CFS-MSL S	26-50%	3B, 3D, 3E, 3G, 3H	1.1	LESS THAN 1
CFS-MSL S	51-75%	3B, 3D, 3E, 3G, 3H	1.8	LESS THAN 1
CFS-MSL S	76-100%	3B, 3D, 3E, 3G, 3H	1.8	1.2
CFS-MSL M	0%	-	1.1	LESS THAN 1
CFS-MSL M	1-25%	3B, 3D, 3E, 3G, 3H	1.8	LESS THAN 1
CFS-MSL M	26-50%	3B, 3D, 3E, 3G, 3H	1.9	LESS THAN 1
CFS-MSL M	51-75%	3B, 3D, 3E, 3G, 3H	1.9	LESS THAN 1
CFS-MSL M	76-100%	3B, 3D, 3E, 3G, 3H	2.2	1.1
CFS-MSL L	0%	-	1.2	LESS THAN 1
CFS-MSL L	1-25%	3B, 3D, 3E, 3G, 3H	1.8	1.1
CFS-MSL L	26-50%	3B, 3D, 3E, 3G, 3H	2.2	1.0
CFS-MSL L	51-75%	3B, 3D, 3E, 3G, 3H	2.6	1.4
CFS-MSL L	76-100%	3B, 3D, 3E, 3G, 3H	3.0	1.6



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Sheet 3 of 4

Scale -

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L-RATING AT AMBIENT = SEE TABLE BELOW

L-RATING AT 400°F = SEE TABLE BELOW

CFS-MSL FGR DIMENSIONS	MAXIMUM SIZE OF OPENING IN FLOOR ASSEMBLY	ANNULAR SPACE FROM DEVICE TO PERIPHERY OF OPENING	
		MINIMUM	MAXIMUM
18" x 4"	19" x 5" (483MM x 127MM)	3/16" (4.8MM)	9/16" (14.3MM)
18" x 9"	19" x 10" (483MM x 254MM)	3/16" (4.8MM)	7/16" (11.1MM)
24" x 4"	25" x 5" (635MM x 127MM)	3/16" (4.8MM)	9/16" (14.3MM)
24" x 9"	25" x 10" (635MM x 254MM)	3/16" (4.8MM)	7/16" (11.1MM)
24" x 14"	25" x 15" (635MM x 381MM)	3/16" (4.8MM)	7/16" (11.1MM)
24" x 19"	25" x 20" (635MM x 508MM)	3/16" (4.8MM)	7/16" (11.1MM)

MIN THICKNESS OF CONCRETE FLOOR	PENETRANT TYPE	RATINGS				
		F	T	FT	FH	FTH
2-1/2" (64MM)	A, B, C, D, E, F, G, H, I	2-HR.	1/2-HR.	1/2-HR.	2-HR.	1/2-HR.
2-1/2" (64MM)	J, K	2-HR.	0-HR.	0-HR.	2-HR.	0-HR.
4-1/2" (114MM)	A1	3-HR.	1-HR.	1-HR.	3-HR.	1-HR.
4-1/2" (114MM)	J, K	3-HR.	3/4-HR.	3/4-HR.	3-HR.	3/4-HR.
4-1/2" (114MM)	A, B, C, D, E, F, G, H, I	3-HR.	1-HR.	1-HR.	3-HR.	1-HR.

THE F, T, FT, AND FTH RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE CONCRETE FLOOR, AND TYPE OF PENETRANT USED WITHIN THE FIRESTOP DEVICE AS SHOWN IN THE TABLE ABOVE.

NOTES : 1. SEPARATION BAR AND CFS-TTS 358 (ITEM 5) NOT REQUIRED FOR 24" x 4" FLOOR GRID.
 2. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF EACH FIRESTOP DEVICE.
 3. L-RATINGS ARE DEPENDENT ON TYPE AND NUMBER OF DEVICES WITHIN THE GANG PLATE AND THE CABLE TYPE AND FILL. A RATING OF LESS THAN ONE SHALL BE CONSIDERED 1 CFM WHEN MORE THAN ONE MODULE IS INSTALLED.

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Sheet 4 of 4

Scale -

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