

MULTIPLE CABLE BUNDLES THROUGH GYPSUM WALL ASSEMBLY

F-RATING = 1-HR. OR 2-HR.

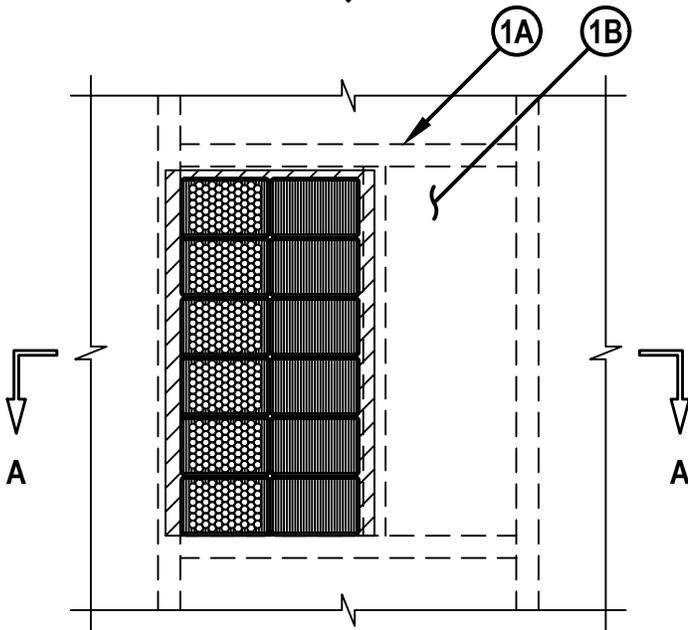
T-RATING = 0-HR., 3/4-HR., OR 1-HR. (SEE NOTE BELOW)

L-RATING AT AMBIENT = SEE NOTE BELOW

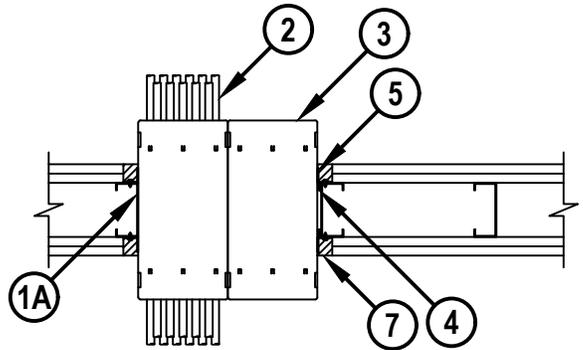
L-RATING AT 400°F = SEE NOTE BELOW

CONFIGURATION A

FRONT VIEW

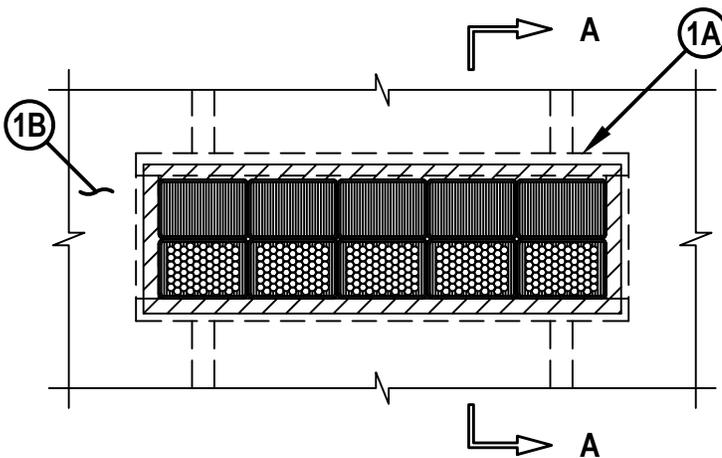


SECTION A-A

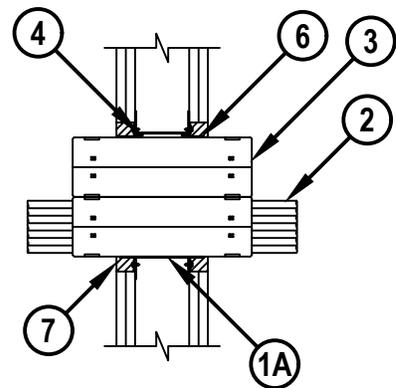


CONFIGURATION B

FRONT VIEW



SECTION A-A



WL3511a.021226



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Scale	5/64" = 1"
Date	Feb. 12, 2026

Drawing No.
**WL
3511a**

MULTIPLE CABLE BUNDLES THROUGH GYPSUM WALL ASSEMBLY

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1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE RATING) (2-HR. SHOWN) TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES :
 - A. STEEL STUDS TO BE MINIMUM 3-5/8" WIDE (SPACED MAXIMUM 24" OC). ADDITIONAL FRAMING MEMBERS SHALL BE USED TO COMPLETELY FRAME AROUND THE GANGED FIRESTOP SLEEVE DEVICES (ITEM 3). THE STUD FRAMED OPENING MAY BE 1/4" LARGER THAN THE HEIGHT AND WIDTH OF THE GANGED FIRESTOP DEVICES (SEE ITEM 4, AND NOTE 2 BELOW).
 - B. NOMINAL 5/8" THICK GYPSUM WALLBOARD. TYPE, NUMBER OF LAYERS, AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL DESIGN. (MINIMUM ONE LAYER OF 3/4" THICK GYPSUM WALLBOARD MAY BE USED AS SPECIFIED IN THE INDIVIDUAL UL DESIGN).

CONFIGURATION	MAXIMUM DIMENSIONS OF OPENING
A	24-1/4" TALL x 13-1/4" WIDE
B	9-1/4" TALL x 30-1/4" WIDE

2. CABLE BUNDLES TO BE A COMBINATION OF ANY OF THE FOLLOWING :
 - A. 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 1/2" 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.



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L-RATING AT AMBIENT = SEE NOTE BELOW

L-RATING AT 400°F = SEE NOTE BELOW

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3. TWO OR MORE HILTI CFS-MSL [S, M, OR L] MODULAR SLEEVES TO BE GANGED TOGETHER WITH GANGING CLIPS AND CENTERED IN THE WALL. DEVICES TO BE SECURED IN FLANGE USING EVERY SCREW HOLE IN ADJUSTABLE FLANGE (ITEM 5).
 - A. FOR CONFIGURATION A, GANGED DEVICES TO BE MINIMUM 8" TALL
 - B. FOR CONFIGURATION B, GANGED DEVICES TO BE MINIMUM 12 WIDE
4. CFS-MSL GPA GASKET MATERIAL INSTALLED TO COMPLETELY FILL ANY SPACE BETWEEN THE STEEL STUD FRAMING (ITEM 1A) AND THE GANGED DEVICES (ITEM 3). (SEE NOTE 2 BELOW).
5. (CONFIGURATION A ONLY) THE LONG DIMENSION FLANGE PIECE OF THE HILTI CFS-MSL GPA ADJUSTABLE FLANGE [24" x 4" OR 24" x 8"] SHALL BE CUT TO MATCH THE HEIGHT OF THE GANGED DEVICES (ITEM 3). THE SHORT DIMENSION OF THE FLANGE SHALL BE OMITTED FOR THIS INSTALLATION. THE LONG DIMENSION FLANGE SHALL BE BUTTED TIGHTLY TO THE VERTICAL EDGES OF THE GANGED DEVICES (ITEM 3) ON BOTH SIDES OF THE WALL, AND SECURED TO THE STEEL FRAMING MEMBERS (ITEM 1A) WITH MINIMUM NO. 8 BY 1/2" LONG STEEL SCREWS THROUGH ALL PRE-DRILLED HOLES IN THE FLANGE.
6. (CONFIGURATION B ONLY) THE LONG DIMENSION FLANGE PIECE OF THE HILTI CFS-MSL GPA ADJUSTABLE FLANGE [24" x 4" OR 24" x 8"] SHALL BE CUT TO MATCH THE WIDTH, OR CENTERED OVER THE WIDTH, OF THE GANGED DEVICES (ITEM 3). THE SHORT DIMENSION OF THE FLANGE SHALL BE OMITTED FOR THIS INSTALLATION. THE LONG DIMENSION FLANGE SHALL BE BUTTED TIGHTLY TO THE HORIZONTAL EDGES OF THE GANGED DEVICES (ITEM 3) ON BOTH SIDES OF THE WALL, AND SECURED TO THE STEEL FRAMING MEMBERS (ITEM 1A) WITH MINIMUM NO. 8 BY 1/2" LONG STEEL SCREWS THROUGH ALL PRE-DRILLED HOLES IN THE FLANGE.
7. HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT, CP 606 FLEXIBLE FIRESTOP SEALANT, OR CFS-S SIL GG SILICONE FIRESTOP SEALANT (SEE NOTE 9 BELOW).
 - A. MINIMUM 5/8" DEPTH FOR 1-HR RATED WALLS
 - B. MINIMUM 1-1/4" DEPTH FOR 2-HR RATED WALLS



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UL/cUL SYSTEM NO. W-L-3511

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DEVICE	MAX CABLE FILL	CABLE TYPE	L-RATING CFM/DEVICE	
			AMBIENT	400°F
CFS-MSL S	0%	-	LESS THAN 1	LESS THAN 1
CFS-MSL S	1-25%	2B, 2D, 2E, 2G, 2H	1.1	1.45
CFS-MSL S	26-50%	2B, 2D, 2E, 2G, 2H	1.1	LESS THAN 1
CFS-MSL S	51-75%	2B, 2D, 2E, 2G, 2H	1.8	LESS THAN 1
CFS-MSL S	76-100%	2B, 2D, 2E, 2G, 2H	1.8	1.2
CFS-MSL M	0%	-	1.1	LESS THAN 1
CFS-MSL M	1-25%	2B, 2D, 2E, 2G, 2H	1.8	LESS THAN 1
CFS-MSL M	26-50%	2B, 2D, 2E, 2G, 2H	1.9	LESS THAN 1
CFS-MSL M	51-75%	2B, 2D, 2E, 2G, 2H	1.9	LESS THAN 1
CFS-MSL M	76-100%	2B, 2D, 2E, 2G, 2H	2.2	1.1
CFS-MSL L	0%	-	1.2	LESS THAN 1
CFS-MSL L	1-25%	2B, 2D, 2E, 2G, 2H	1.8	1.1
CFS-MSL L	26-50%	2B, 2D, 2E, 2G, 2H	2.2	1.0
CFS-MSL L	51-75%	2B, 2D, 2E, 2G, 2H	2.6	1.4
CFS-MSL L	76-100%	2B, 2D, 2E, 2G, 2H	3.0	1.6



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- NOTES :**
1. ANNULAR SPACE BETWEEN GANGED DEVICES AND STEEL FRAMING = MINIMUM 0", MAXIMUM 1/4".
 2. WHERE FRAMING IS COMPLETELY TIGHT TO GANGED DEVICES, THE CFS-MSL GPA GASKET MATERIAL (ITEM 4) IS NOT REQUIRED
 3. ANNULAR SPACE BETWEEN GANGED DEVICES AND GYPSUM BOARD = MINIMUM 0", MAXIMUM 5/8".
 4. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF EACH FIRESTOP DEVICE.
 5. WHEN HOURLY RATING OF WALL ASSEMBLY EQUALS 1-HR., THE T- RATING IS 0-HR.
 6. WHEN THE HOURLY RATING OF THE WALL ASSEMBLY IS 2-HR, AND CABLES 2J TO 2K ARE INSTALLED, THE T-RATING IS 3/4-HR.
 7. WHEN THE HOURLY RATING OF THE WALL ASSEMBLY IS 2-HR, AND CABLES 2A THROUGH 2I ARE INSTALLED, THE T-RATING IS 1-HR.
 8. 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.
 9. IN LIEU OF ITEM 7, GYPSUM DRYWALL COMPOUND MAY BE USED.



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