

UL/cUL SYSTEM NO. W-L-3483

# MULTIPLE CABLE BUNDLES THROUGH GYPSUM WALL ASSEMBLY

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

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

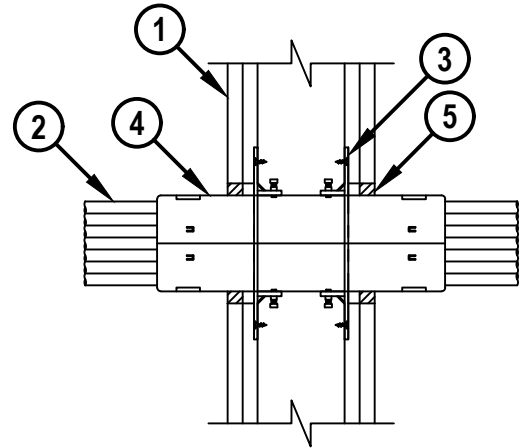
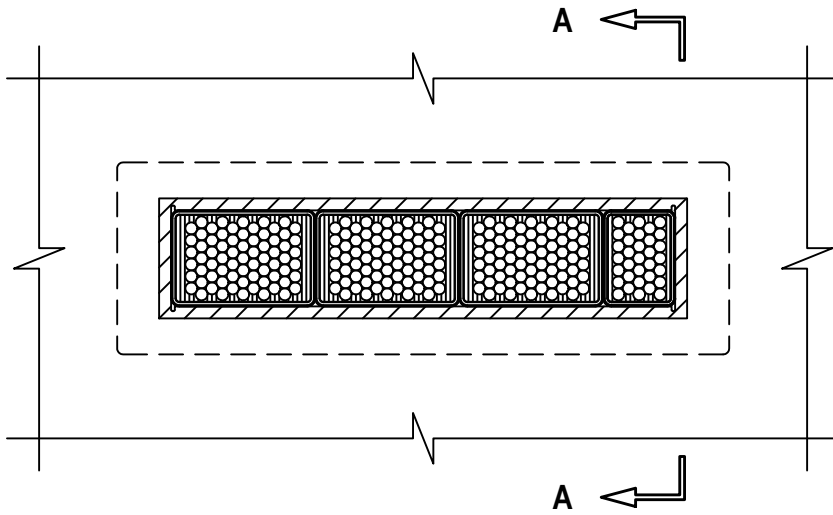
L-RATING AT AMBIENT = SEE TABLE

L-RATING AT 400°F = SEE TABLE

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FRONT VIEW

SECTION A-A



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

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Scale	1/8" = 1"
Date	Sep. 22, 2022

Drawing No.  
**WL  
3483b**

*Saving Lives through Innovation and Education*

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1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN) TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES :
  - A. [NOT SHOWN] WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER (SPACED MAXIMUM 16" OC). STEEL STUDS TO BE MINIMUM 3-5/8" WIDE (SPACED MAXIMUM 24" OC).
  - 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).
2. CABLE BUNDLE TO BE ANY COMBINATION OF THE FOLLOWING :
  - A. MAXIMUM 100 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.
3. HILTI CFS-MSL GPP PRE-DRYWALL GANGPLATE [16" x 4" OR 24" x 4"] SIZED TO MATCH STUD SPACING AND FASTENED DIRECTLY TO VERTICAL STUDS WITH SIX NO. 8 BY 1/2" LONG STEEL SCREWS PER FLANGE, THREE INSTALLED ON EACH SIDE OF FLANGE. ONE FLANGE TO BE INSTALLED ON EACH SIDE OF THE WALL PRIOR TO INSTALLATION OF GYPSUM BOARD.
4. TWO OR MORE HILTI CFS-MSL [S, M, OR L] MODULAR SLEEVE TO BE GANGED TOGETHER WITH GANGING CLIPS AND CENTERED IN THE WALL. DEVICE TO BE INSTALLED AND TIGHTENED USING SET SCREWS IN DEVICE FLANGE .
5. MINIMUM 5/8" DEPTH OF HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR CP 606 FLEXIBLE FIRESTOP SEALANT (SEE NOTE BELOW).



**Hilti Firestop Systems**

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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, 2L	1.1	1.45
CFS-MSL S	26-50%	2B, 2D, 2E, 2G, 2H, 2L	1.1	LESS THAN 1
CFS-MSL S	51-75%	2B, 2D, 2E, 2G, 2H, 2L	1.8	LESS THAN 1
CFS-MSL S	76-100%	2D, 2E, 2G, 2H, 2L	1.8	1.2
CFS-MSL M	0%	-	1.1	LESS THAN 1
CFS-MSL M	1-25%	2B, 2D, 2E, 2G, 2H, 2L	1.8	LESS THAN 1
CFS-MSL M	26-50%	2B, 2D, 2E, 2G, 2H, 2L	1.9	LESS THAN 1
CFS-MSL M	51-75%	2B, 2D, 2E, 2G, 2H, 2L	1.9	LESS THAN 1
CFS-MSL M	76-100%	2B, 2D, 2E, 2G, 2H, 2L	2.2	1.1
CFS-MSL L	0%	-	1.2	LESS THAN 1
CFS-MSL L	1-25%	2B, 2D, 2E, 2G, 2H, 2L	1.8	1.1
CFS-MSL L	26-50%	2B, 2D, 2E, 2G, 2H, 2L	2.2	1.0
CFS-MSL L	51-75%	2B, 2D, 2E, 2G, 2H, 2L	2.6	1.4
CFS-MSL L	76-100%	2B, 2D, 2E, 2G, 2H, 2L	3.0	1.6

- NOTES :**
1. MAXIMUM SIZE OF OPENING = 22" x 5".
  2. ANNULAR SPACE = MINIMUM 1/4", MAXIMUM 3/4".
  3. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF EACH FIRESTOP DEVICE.
  4. WHEN HOURLY RATING OF WALL ASSEMBLY EQUALS 1-HR., THE T-RATING IS 0-HR.
  5. WHEN HOURLY RATING OF THE WALL ASSEMBLY EQUALS 2-HR. AND 2K IS USED, THE T-RATING = 1/2-HR. WHEN 2J IS USED, THE T-RATING = 3/4-HR. FOR ALL OTHER PENETRATING ITEMS THE T-RATING = 1-HR.
  6. IN LIEU OF ITEM 5, GYPSUM DRYWALL COMPOUND MAY BE USED.
  7. 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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