

UL/cUL SYSTEM NO. W-L-3441

CABLE BUNDLE THROUGH GYPSUM WALL ASSEMBLY

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

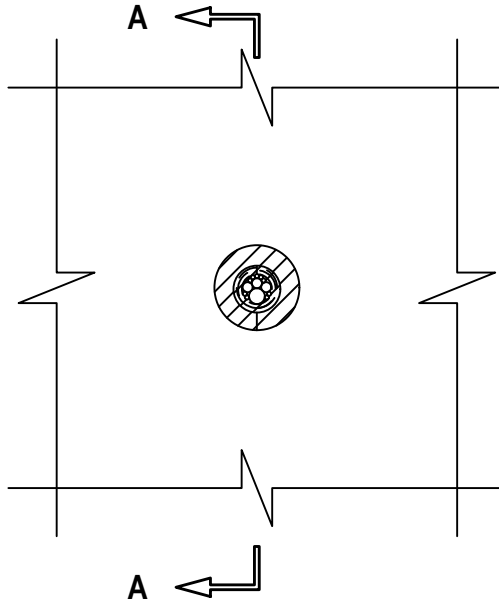
T-RATING = 0-HR., 1/2-HR., 1-HR., OR 2-HR. (SEE NOTES BELOW)

L-RATING AT AMBIENT = 1 CFM / SQ FT OR LESS

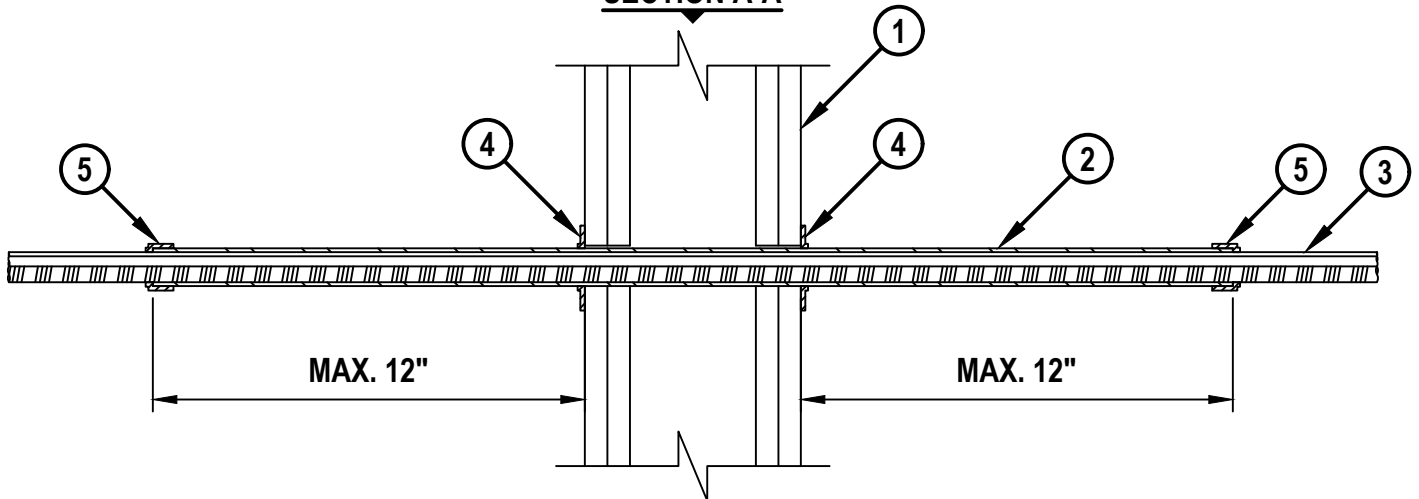
L-RATING AT 400°F = 1 CFM / SQ FT OR LESS

WL3441d.020525

FRONT VIEW



SECTION A-A



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

Sheet	1 of 3
Scale	3/16" = 1"
Date	Feb. 05, 2025

Drawing No.

**WL
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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 3-1/2" 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.
2. SLEEVE MAY BE INSTALLED FLUSH WITH BOTH WALL SURFACES OR EXTEND MAXIMUM 12" BEYOND ONE OR BOTH WALL SURFACES. SLEEVE MAY ALSO EXTEND CONTINUOUSLY BEYOND ONE WALL SURFACE. SLEEVE SHALL BE SECURED TO ADJACENT STUD WITHIN THE WALL CAVITY WITH A STEEL CONDUIT STRAP ATTACHED TO STUD WITH MIN. TWO NO. 8 SHEET METAL SCREWS, OR SLEEVE SHALL BE RIGIDLY SUPPORTED ON THOSE SIDES OF THE WALL WHERE THE SLEEVE EXTENDS. AS AN OPTION, THE SLEEVE MAY BE PROVIDED WITH A PLASTIC GROMMET AT THE END. SLEEVE TO BE ONE OF THE FOLLOWING :
 - A. MAXIMUM 1" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCH 5 OR HEAVIER).
 - B. MAXIMUM 1" NOMINAL DIAMETER STEEL CONDUIT.
 - C. MAXIMUM 1" NOMINAL DIAMETER STEEL EMT.
 - D. MAXIMUM 1" NOMINAL DIAMETER ALUMINUM PIPE SLEEVE (SCH 5 OR HEAVIER).
 - E. MAXIMUM 1" NOMINAL DIAMETER ALUMINUM CONDUIT.
 - F. MAXIMUM 1" NOMINAL DIAMETER ALUMINUM EMT.
3. SINGLE CABLE OR CABLE BUNDLE TO BE ONE OR A COMBINATION OF ANY OF THE FOLLOWING :
 - A. MAXIMUM 3/C NO. 8 AWG NM COPPER CONDUCTOR (ROMEX) CABLE WITH PVC INSULATION AND JACKET.
 - B. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR CONTROL CABLE WITH PVC OR XLPE JACKET AND INSULATION.
 - C. MAXIMUM 100 PAIR NO. 24 AWG COPPER CONDUCTOR TELECOMMUNICATION CABLE WITH PVC OR PLENUM RATED INSULATION AND JACKETING.
 - D. MAXIMUM 4 PAIR NO. 22 AWG CAT 5 OR 6 COMPUTER CABLE WITH PVC OR PLENUM RATED INSULATION AND JACKETING.
 - E. MAXIMUM RG 6/U COAXIAL CABLE WITH FLUORINATED ETHYLENE OR PVC INSULATION AND JACKETING (MAXIMUM 1/2" DIAMETER).
 - F. MAXIMUM 24 FIBER-OPTIC CABLE WITH PVC OR PE JACKET AND INSULATION.
 - G. MAXIMUM 2/C NO. 18 AWG COPPER CONDUCTOR FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR (AFC CABLE SYSTEMS, INC).
 - H. MAXIMUM 3/C NO. 10 AWG COPPER CONDUCTOR METAL CLAD CABLE.



Hilti Firestop Systems

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4. HILTI CFS-D 1" FIRESTOP PUTTY DISC PRESSED FIRMLY AROUND THE SLEEVE LAPPING NOMINAL 5mm ONTO SLEEVE AND FIRMLY PRESSED TO LAP ONTO THE WALL. DISC SEAM TO BE FIRMLY PRESSED AND SEALED TIGHT.
5. HILTI CFS-D 1" FIRESTOP PUTTY DISC PRESSED FIRMLY AROUND THE CABLE/CABLE BUNDLE, AT EXIT FROM EACH SLEEVE, LAPPING NOMINAL 5mm ONTO CABLES TO COMPLETELY COVER OPENING AND FIRMLY PRESSED TO LAP ONTO THE SLEEVE. DISC SEAM TO BE FIRMLY PRESSED AND SEALED TIGHT.

- NOTES :
1. OPENING MAY BE ROUND, RECTANGULAR, OR IRREGULAR WITH A MAXIMUM DIAMETER OR DIMENSION OF OPENING = 1-1/4".
 2. CABLES MAY REPRESENT 0% TO 100% OF VISUAL FILL OF SLEEVE.
 3. ANNULAR SPACE BETWEEN SLEEVE AND PERIPHERY OF OPENING = MINIMUM 0", MAXIMUM 1/8".
 4. WHEN SLEEVES 2A THROUGH 2C ARE USED AND OPENING EXCEEDS 1" DIMENSION, MAXIMUM ANNULAR SPACE = 3/8".
 5. WHEN ITEM 2A THROUGH 2C IS USED, T-RATING IS 2-HR. WHEN ITEM 2D THROUGH 2F IS USED, AND T-RATING IS 1/2-HR.
 6. [NOT SHOWN] AS AN ALTERNATE TO ITEM 4 ABOVE FOR SLEEVE 2A THROUGH 2C, INSTALL MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT OR HILTI CP 606 FLEXIBLE FIRESTOP SEALANT AT THE SLEEVE/WALL INTERFACE WHEN ANNULAR SPACE IS MAX 1/8".
 7. [NOT SHOWN] AS AN ALTERNATIVE TO ITEM 4 ABOVE FOR SLEEVE 2D THROUGH 2F, INSTALL MINIMUM 1/2" BEAD HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT AT THE SLEEVE/WALL INTERFACE WHEN ANNULAR SPACE IS MAX 1/8". T-RATING IS THEN RESTRICTED TO 0-HR.



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