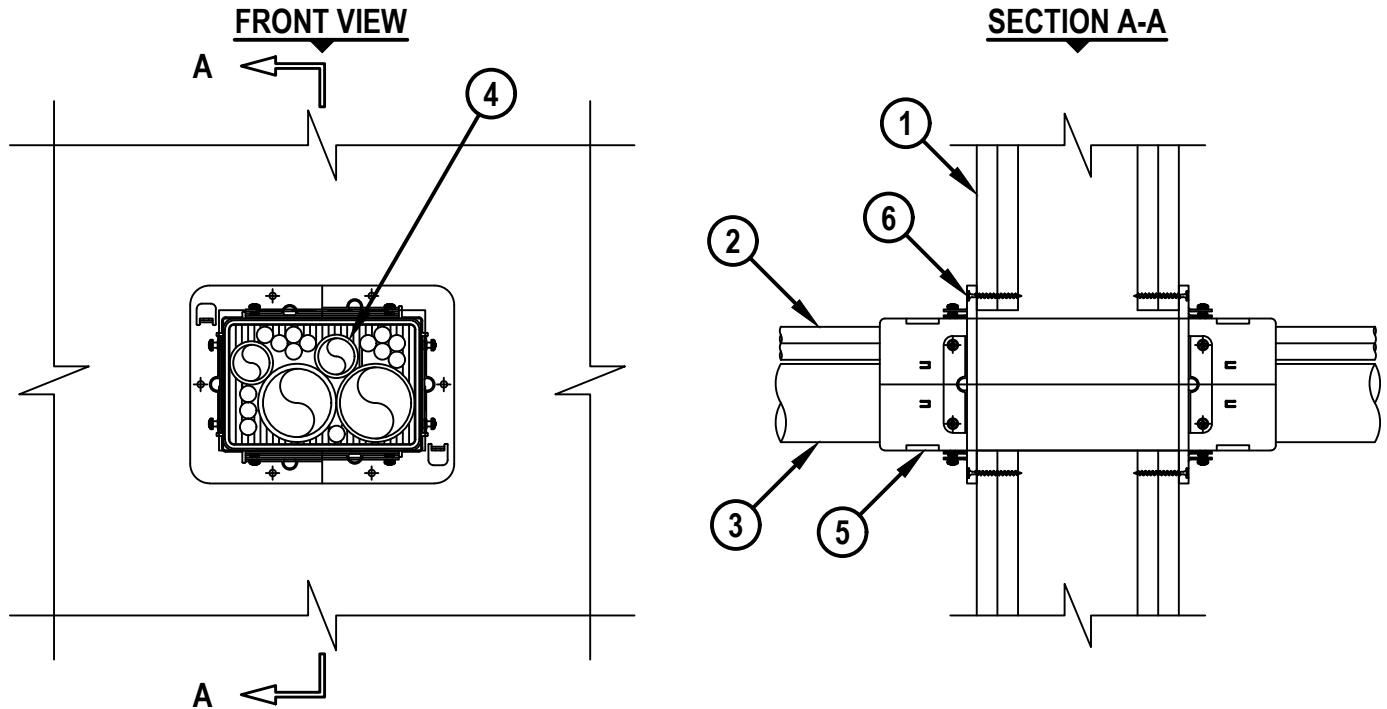


MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR., 1-HR., OR 1-1/2-HR.

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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).



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

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Scale	11/64" = 1"
Date	Sep. 29, 2023

Drawing No.

WL
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Saving Lives through Innovation and Education

MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR., 1-HR., OR 1-1/2-HR.

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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. [OPTIONAL] ONE OR MORE OF THE FOLLOWING METALLIC PIPES MAY BE BUNDLED TOGETHER WITH THE OTHER PENETRATING ITEMS :

- A. MAXIMUM 2" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
- B. MAXIMUM 2" NOMINAL DIAMETER CAST OR DUCTILE IRON PIPE.
- C. MAXIMUM 2" NOMINAL DIAMETER STEEL CONDUIT OR STEEL EMT.
- D. MAXIMUM 3/4" NOMINAL DIAMETER FLEXIBLE STEEL CONDUIT.

4. [OPTIONAL] ONE OR MORE OF THE FOLLOWING NONMETALLIC PIPES MAY BE BUNDLED TOGETHER WITH THE OTHER PENETRATING ITEMS :

- A. MAXIMUM 2" NOMINAL DIAMETER ENT (PVC OR HDPE).
- B. MAXIMUM 1/2" NOMINAL DIAMETER DURA-LINE MICRODUCT.

5. HILTI CFS-MSL [S, M, OR L] MODULAR SLEEVE TO BE CENTERED IN THE WALL. DEVICE TO BE INSTALLED WITH A GASKET AND HILTI CFS-MSL P [S, M, OR L] DEVICE FLANGE ON BOTH SIDES OF WALL AND TIGHTENED USING SET SCREWS IN DEVICE FLANGE.**6. SECURE DEVICE FLANGES TO BOTH SIDES OF WALL WITH MINIMUM TWO 1-1/2" LONG STEEL SCREWS THROUGH THE PRE-MADE HOLES.****NOTES : 1. MAXIMUM SIZE OF OPENING = 6-1/4" x 4-1/4".****2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1/4".****3. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF EACH FIRESTOP DEVICE.****Hilti Firestop Systems**

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Scale -

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