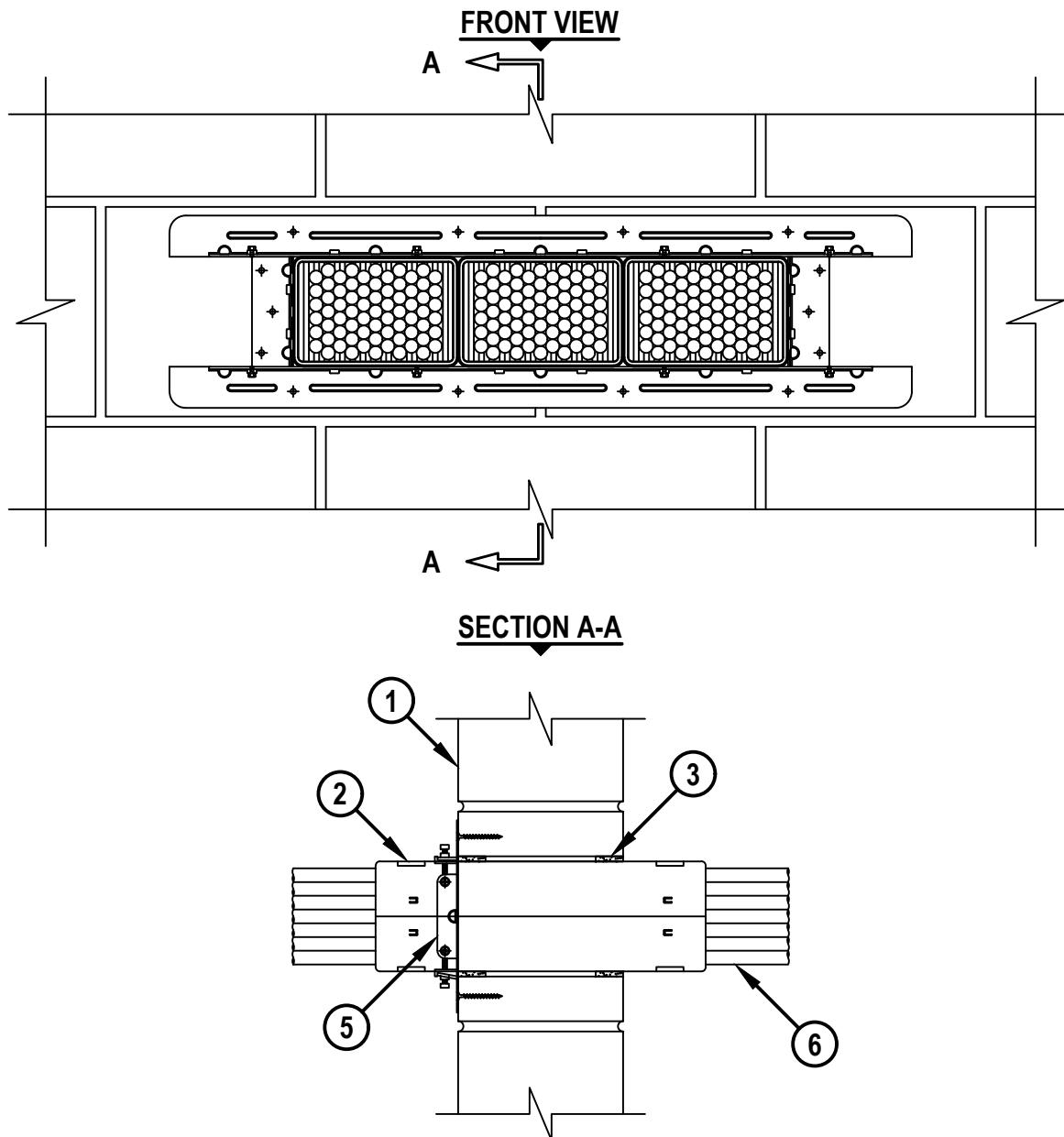


UL/cUL SYSTEM NO. W-J-3298

## MULTIPLE CABLE BUNDLES THROUGH CONCRETE WALL ASSEMBLY

F-RATING = 2-HR.  
T-RATING = 1-1/4-HR.

WJ3298b.050825



Hilti, Inc.  
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Sheet

1 of 2

Drawing No.

Scale  
5/32" = 1"

**WJ  
3298b**

Date  
May 08, 2025

*Saving Lives through Innovation and Education*

**MULTIPLE CABLE BUNDLES THROUGH CONCRETE WALL ASSEMBLY**

F-RATING = 2-HR.  
T-RATING = 1-1/4-HR.

WJ3298b.050825

1. CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING) :
  - A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 6" THICK).
  - B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. ONE 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 A MINIMUM EVERY OTHER SCREW HOLE IN ADJUSTABLE FLANGE (ITEM 5). WHEN SLEEVES ARE GANGED TOGETHER THEY ARE TO FORM A RECTANGULAR SHAPE.
3. HILTI CP-648E WRAP STRIP (NOMINAL 3/16" THICK, X 1" WIDE) WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE CFS-MSL DEVICE(S), ONE TIME, WITH ENDS BUTTED AND HELD IN PLACE WITH TAPE. HILTI CP 648E TO BE FLUSH WITH WALL ASSEMBLY SURFACES.
4. [NOT SHOWN] GASKET MATERIAL APPLIED TO BACK OF ADJUSTABLE FLANGE MATERIAL WITH INTEGRATED TAPE PRIOR TO FLANGE BEING INSTALLED TO WALL ASSEMBLY.
5. HILTI CFS-MSL GPA ADJUSTABLE FLANGE [24" x 4" OR 24" x 8"] BOLTED TOGETHER AROUND GANGED DEVICES AND SECURED TO WALL WITH MIN 1-1/2" LONG MASONRY SCREWS OR ANCHORS.
6. 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.

NOTES : 1. MAXIMUM SIZE OF OPENING = 18-1/2" x 4-1/2".  
           2. ANNULAR SPACE = MINIMUM 3/16", MAXIMUM 5/16".  
           3. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF EACH FIRESTOP DEVICE.



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