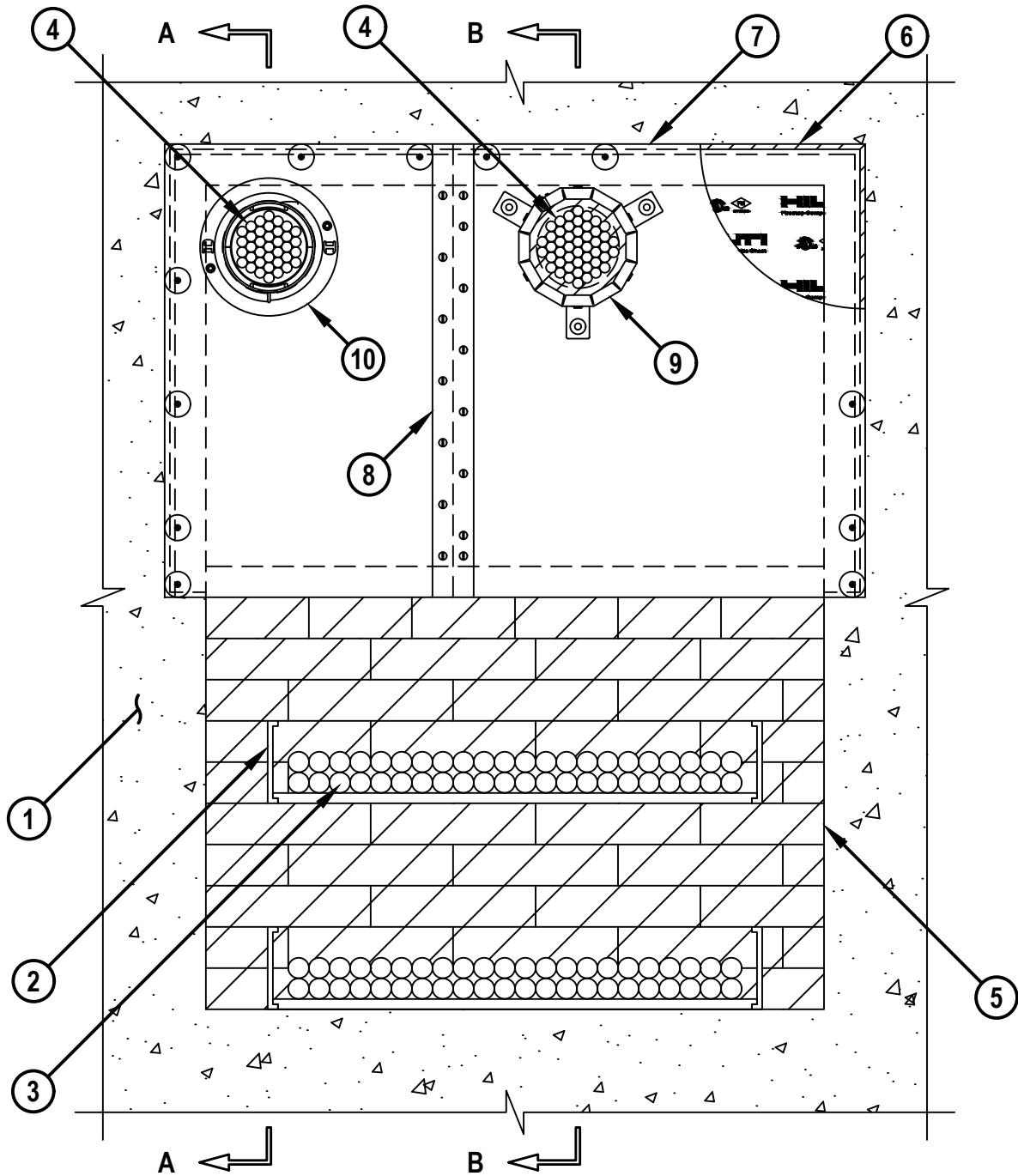


UL/cUL SYSTEM NO. W-J-8078

MULTIPLE PENETRATING ITEMS THROUGH CONCRETE WALL ASSEMBLY

F-RATING = 2-HR.
T-RATING = 0-HR.

FRONT VIEW



WJ8078a.100119



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Scale	1/8" = 1"
Date	Oct. 01, 2019

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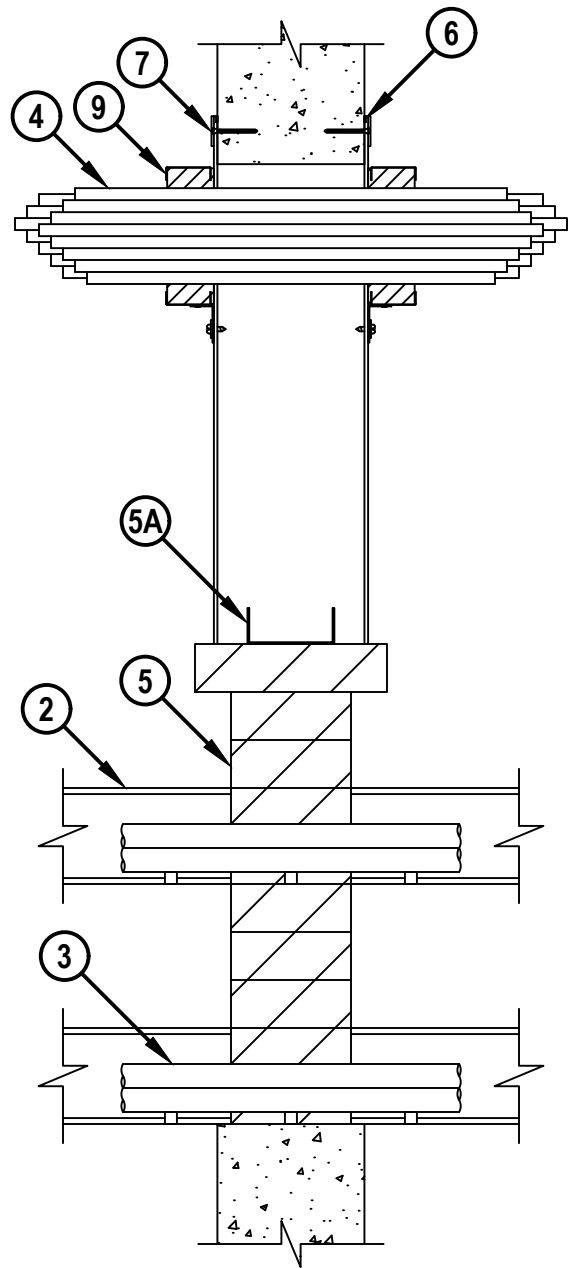
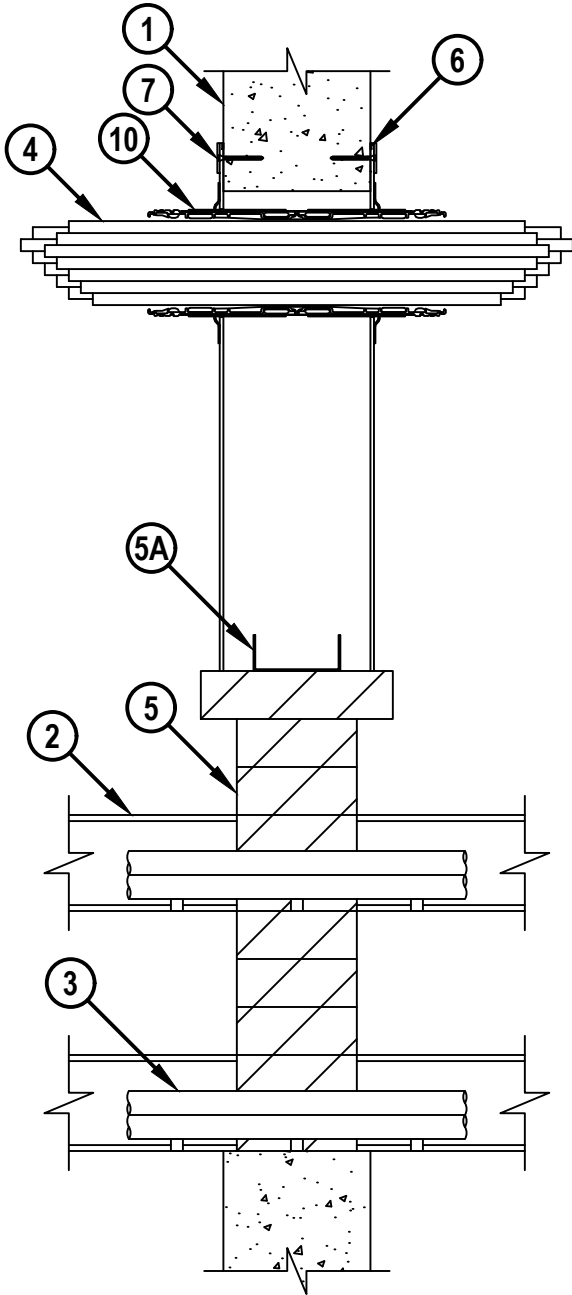
MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR.

SECTION A-A

SECTION B-B



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MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR.

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SYSTEM TESTED WITH A PRESSURE DIFFERENTIAL OF 2.5 Pa BETWEEN THE EXPOSED AND THE UNEXPOSED SURFACES WITH THE HIGHER PRESSURE ON THE EXPOSED SIDE.

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. MAXIMUM 24" x 4" ALUMINUM OPEN LADDER CABLE TRAY (MAX QTY. OF TWO PER OPENING).
3. CABLES WITHIN CABLE TRAY TO BE ANY COMBINATION OF THE FOLLOWING (SEE NOTE NO. 10 BELOW).
 - A. MAXIMUM 200 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC INSULATION AND JACKET.
 - B. MAXIMUM 7/C NO. 12 AWG MULTICONDUCTOR POWER AND CONTROL CABLES, PVC JACKETED.
 - C. MULTIPLE NOMINAL 3/8" (10mm) DIAMETER (OR SMALLER) FIBER OPTICAL COMMUNICATION CABLE.
 - D. MAXIMUM 3/C NO. 12 AWG METAL CLAD CABLE.
 - E. MAXIMUM 4/0 AWG TYPE RHH GROUND CABLE.
 - F. MAXIMUM 4 PAIR NO. 22 CAT 5 OR 6 COMPUTER CABLE.
 - G. MAXIMUM RG6/U COAXIAL CABLE.
 - H. MAXIMUM 3/8" (10mm) DIAMETER FIBER OPTIC CABLE (24 FIBER) WITH PVC OR PE JACKET AND INSULATION.
 - I. ANY MAXIMUM 2/C NO. 18 AWG METAL CLAD OR ARMORED CABLE WITH STEEL OR ALUMINUM JACKET CURRENTLY LISTED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.
4. ONE OR MORE CABLE BUNDLES CONSISTING OF THE CABLE TYPES LISTED IN ITEM 3 ABOVE MAY BE INSTALLED WITHIN THE OPENING. A MAXIMUM OF FOUR MAXIMUM 2" DIAMETER CABLE BUNDLES OR A MAXIMUM OF TWO MAXIMUM 4" DIAMETER CABLE BUNDLES MAY BE INSTALLED WITHIN THE OPENING.
5. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 8" WIDE x 5" DEEP) WITH 5" DIMENSION PROJECTING THROUGH OPENING, FIRMLY PACKED AND CENTERED IN OPENING.
 - A. MINIMUM 3-5/8" WIDE STEEL STUD INSTALLED OVER TOP ROW OF FIRESTOP BLOCKS (ITEM 5). STEEL STUD CUT AND BENT UPWARDS ON BOTH ENDS TO ALLOW ATTACHMENT TO THE VERTICAL SIDES OF THE OPENING WITH ONE MINIMUM 3/16" X 1-1/4" LONG STEEL SCREW ANCHOR ON EACH SIDE.
6. MINIMUM 1/4" DIAMETER BEAD OF HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT APPLIED UNDER COMPOSITE SHEET AROUND PERIMETER OF OPENING IN WALL.
7. HILTI CFS-COS FIRESTOP COMPOSITE SHEET CUT TO OVERLAP WALL A MINIMUM OF 2". COMPOSITE SHEET INSTALLED WITH THE ALUMINUM FOIL FACING AGAINST THE WALL AND SECURED WITH MINIMUM 3/16" DIAMETER X 1-1/4" LONG STEEL SCREW ANCHORS WITH MIN 1" DIAMETER WASHERS. AT MAXIMUM 2" FROM ENDS AND MAXIMUM 6" C/C. COMPOSITE SHEET CUT TO TIGHTLY FOLLOW THE CONTOUR OF THE PENETRANTS. THE COMPOSITE SHEET IS NOT ATTACHED ALONG BOTTOM OF SHEET EXCEPT AT OVERLAPPING SECTIONS ON THE WALL. A MAXIMUM OF ONE BUTT SEAM OR SLIT IS PERMITTED IN COMPOSITE SHEET.



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MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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8. MINIMUM 2" WIDE STAINLESS STEEL COVER STRIP (MIN. 26 GA.) CENTERED OVER ENTIRE LENGTH OF BUTTED SEAM OR SLIT MADE IN THE COMPOSITE SHEET. STEEL COVER STRIP SECURED TO COMPOSITE SHEET WITH 3/4" SHEET METAL SCREWS SPACED MAXIMUM 3" OC ALTERNATING ON EACH SIDE OF SEAM OR SLIT.
9. HILTI CFS-CC FIRESTOP CABLE COLLAR INSTALLED AROUND CABLE BUNDLE AND MOUNTED TO FACE OF COMPOSITE SHEET ON BOTH SIDES OF THE WALL WITH 3/4" LONG SHEET METAL SCREWS WITH 3/4" WASHERS THROUGH EACH TAB OF DEVICE. MAXIMUM DIAMETER OPENING IN COMPOSITE SHEET FOR CABLE COLLAR IS 4". FOR OPENINGS IN COMPOSITE SHEET WITH CABLES, PLUG WITHIN COLLAR CUT TO TIGHTLY FIT AROUND THE CABLE BUNDLE.
10. HILTI CP 653 (BA) SPEED SLEEVE [2" OR 4"] OR HILTI CFS-SL GA L SPEED SLEEVE [4"] SLID INTO AND CENTERED IN WALL. MAXIMUM DIAMETER OF OPENINGS IN COMPOSITE SHEET IS 3" FOR THE 2" DEVICE, AND 4-1/2" FOR THE 4" DEVICE. SPEED SLEEVE SECURED TO FACE OF COMPOSITE SHEET ON BOTH SIDES OF THE WALL WITH TWO NO. 8 SELF-DRILLING SCREWS THROUGH PRE-MADE HOLES IN DEVICE FLANGES. A MAXIMUM OF TWO SPEED SLEEVES MAY BE INSTALLED. (SEE NOTE NO. 6 BELOW).

- NOTES :**
1. MAXIMUM AREA OF OPENING = 1200 SQ. IN., WITH A MAXIMUM DIMENSION OF 40".
 2. ANNULAR SPACE BETWEEN CABLE TRAYS AND PERIPHERY OF OPENING = MINIMUM 0" OR GREATER AT BOTTOM OF CABLE TRAY, AND MINIMUM 2" AT SIDES AND TOP OF CABLE TRAY.
 3. ANNULAR SPACE BETWEEN CABLE TRAYS = MINIMUM 6".
 4. ANNULAR SPACE BETWEEN CABLE BUNDLES AND PERIPHERY OF OPENING = MINIMUM 0" OR GREATER.
 5. ANNULAR SPACE BETWEEN CABLE BUNDLES = MINIMUM 4".
 6. HILTI CP 653 (BA) OR HILTI CFS-SL GA L MAY BE INSTALLED WITH POINT OF CONTACT TO THE OPENING.
 7. CABLE FILL THROUGH OPENINGS IN COMPOSITE SHEET WHERE HILTI CFS-CC FIRESTOP CABLE COLLAR IS INSTALLED MAY BE 0% TO 100% VISUAL FILL OF OPENING AREA.
 8. CABLES MAY REPRESENT 0% TO 100% VISUAL FILL OF HILTI CP 653 (BA) OR HILTI CFS-SL GA L SPEED SLEEVE DEVICE.
 9. APPLY HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT INTO INTERSTICES OF CABLES, BETWEEN CABLES AND CABLE TRAYS, AND INTO VOIDS TO MAXIMUM EXTENT POSSIBLE.
 10. MAXIMUM AREA OF CABLES SHALL BE 45% OF CROSS-SECTIONAL AREA OF CABLE TRAY BASED ON A MAXIMUM 3" CABLE LOADING DEPTH.



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