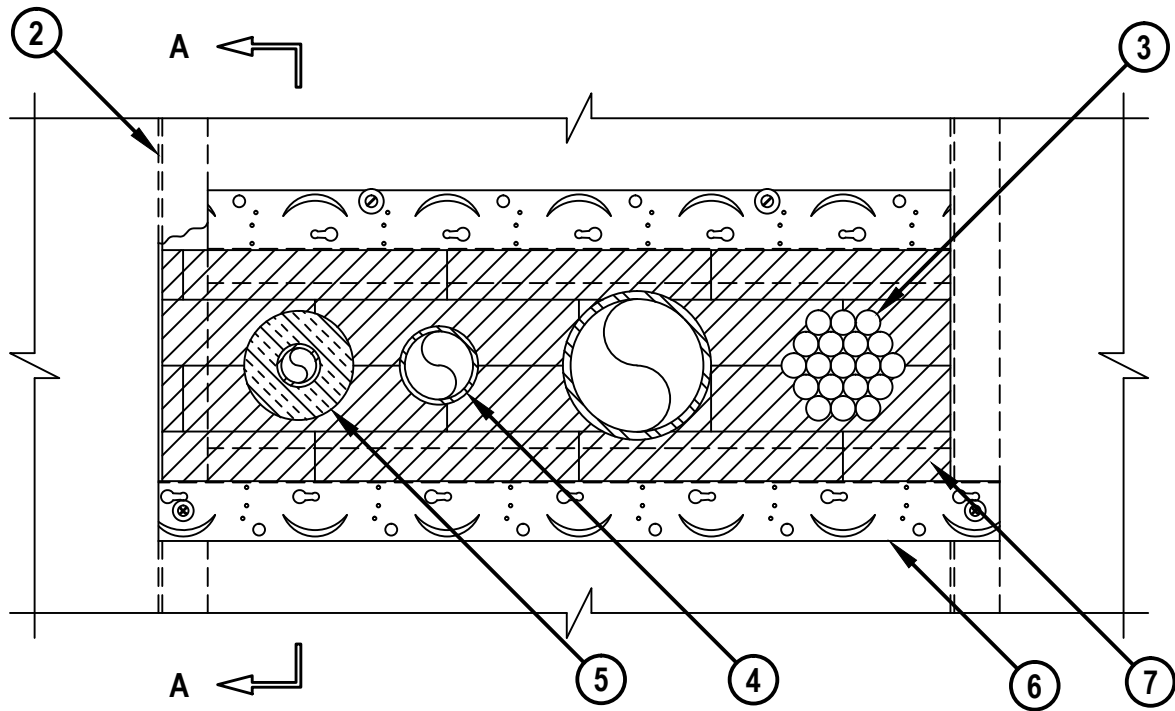


UL/cUL SYSTEM NO. W-L-8058

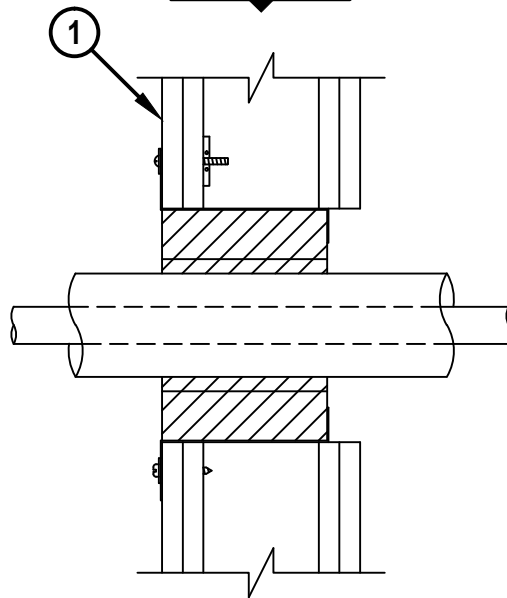
MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

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

FRONT VIEW



SECTION A-A



WL8058c.011012



HILTI, Inc.
Tulsa, Oklahoma USA (800) 879-8000

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Scale	1 1/64" = 1"
Date	Jan. 10, 2012

Drawing No.
WL
8058c

Saving Lives through Innovation and Education

MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

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

WL8058c.011012

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, V400, W400 SERIES WALL) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE NOMINAL 3-1/2" WIDE.
3. MAXIMUM 4" DIAMETER CABLE BUNDLE (ONE OR MORE) TO CONSIST OF ANY COMBINATION OF THE FOLLOWING :
 - A. MAXIMUM 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - B. TYPE RGU 59 COAXIAL CABLE WITH PVC JACKET.
 - C. MAXIMUM 7/C NO. 12 AWG POWER CABLE WITH PVC JACKET.
 - D. MAXIMUM 5/8" DIAMETER FIBER OPTIC CABLE WITH PVC JACKET.
 - E. MAXIMUM 3/C NO. 8 AWG METAL-CLAD CABLE.
 - F. MAXIMUM 3/C (+GROUND) NO. 8 AWG ROMEX POWER CABLE WITH PVC JACKET.
4. ONE OR MORE OF THE FOLLOWING PIPES, AND IN ANY COMBINATION MAY BE INSTALLED WITHIN THE OPENING :
 - A. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).
 - B. MAXIMUM 2" NOMINAL DIAMETER COPPER PIPE OR TUBING.
 - C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT OR EMT.
5. OPTIONAL : NOMINAL 1" THICK GLASS-FIBER PIPE INSULATION MAY BE INSTALLED ON ANY OR ALL STEEL OR COPPER PIPES.
6. HILTI CP 675T Z-FRAME CUT TO LENGTH FOR THE TOP AND BOTTOM OF THE OPENING. FASTEN Z-FRAME TO WALL WITH TWO 1/4" HILTI TOGGLER BOLTS SPACED MAXIMUM 12" O/C (SEE NOTE BELOW).
7. HILTI CFS-BL FIRESTOP BLOCK OR HILTI FS 657 FIRE BLOCK (2" THICK x 8" WIDE x 5" DEEP) FIRMLY PACKED WITHIN OPENING AND EXTENDING FLUSH WITH BACK LIP OF Z-FRAME. BLOCKS TO ALSO BE INSTALLED WITHIN ANY OPEN STUD CAVITY. EITHER ONE OR A COMBINATION OF BLOCK TYPES MAY BE USED.

ANNULAR SPACE	MINIMUM
BETWEEN CABLES AND METALLIC PIPES	1/2"
BETWEEN CABLES/METALLIC PIPES AND PERIPHERY OF OPENING	1/2"
BETWEEN INSULATED PIPES AND PERIPHERY OF OPENING	1"
BETWEEN INSULATED PIPES AND OTHER PENETRANTS	1/2"

NOTES : 1. MAXIMUM SIZE OF OPENING FOR STEEL STUD WALLS = 22-3/4" x 7". (OPENING TO BE CUT HORIZONTALLY FROM STUD TO STUD).
 2. MAXIMUM SIZE OF OPENING FOR WOOD STUD WALLS = 14-3/4" x 7". (OPENING TO BE CUT HORIZONTALLY FROM STUD TO STUD).
 3. AS AN ALTERNATE TO UTILIZING TOGGLER BOLTS, Z-FRAME MAY BE FASTENED TO STEEL STUDS ON EACH END, UTILIZING 2-5/8" LONG DRYWALL SCREWS.



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