

UL/cUL SYSTEM NO. W-L-8013

MULTIPLE PENETRATIONS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR.

L-RATING AT AMBIENT = 5 CFM / SQ FT

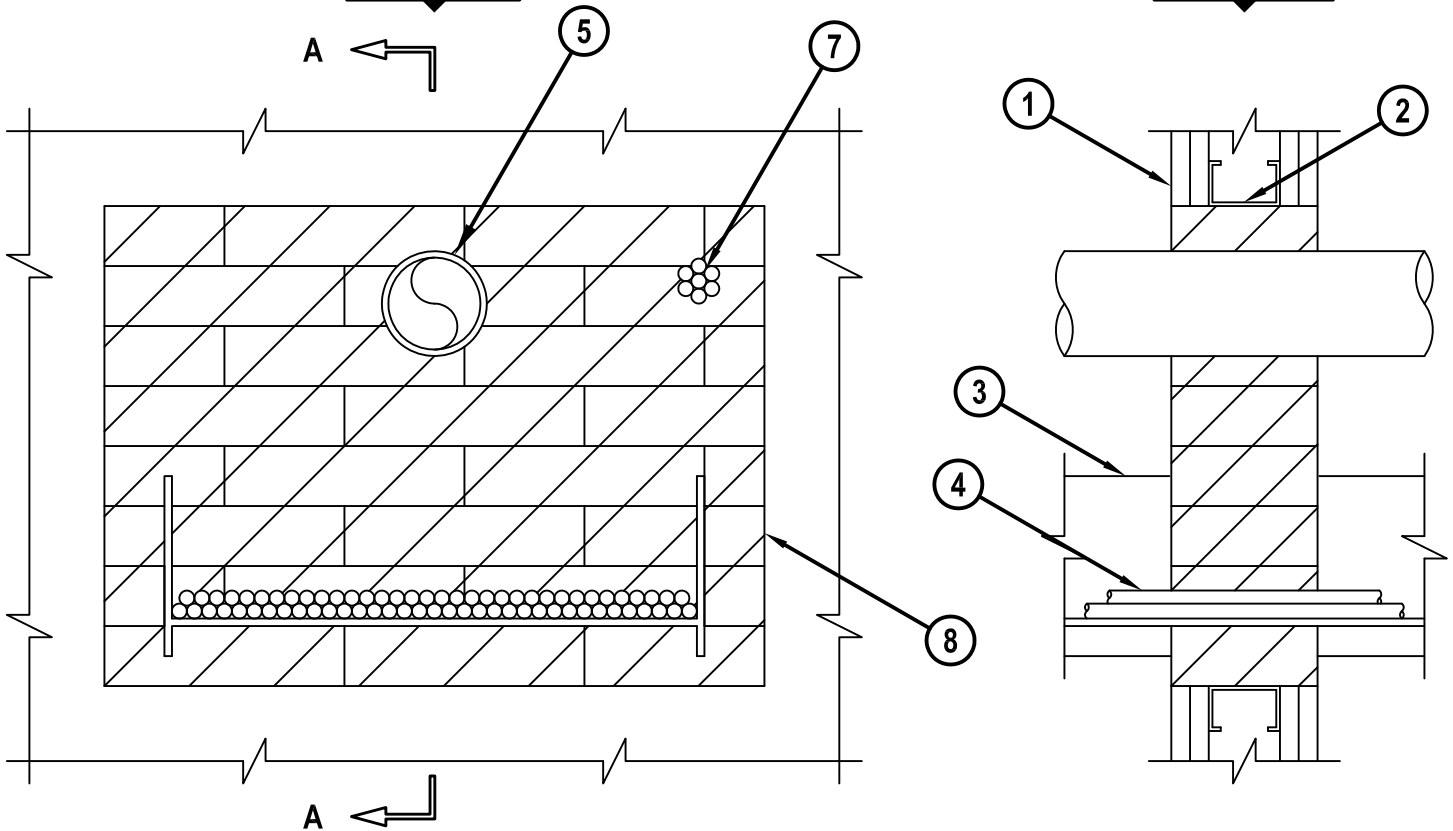
L-RATING AT 400°F = 2 CFM / SQ FT

NOTE : TESTED TO A 2.5 Pa PRESSURE DIFFERENTIAL

WL8013k.020916

FRONT VIEW

SECTION A-A



1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, V400, OR W400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. [NOT SHOWN] WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE. OPENING TO BE COMPLETELY "FRAMED-OUT".
3. MAXIMUM 18" x 6", ALUMINUM OR STEEL, OPEN LADDER OR SOLID BACK CABLE TRAY.



Hilti Firestop Systems

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

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|-------|---------------|
| Sheet | 1 of 2 |
| Scale | 5/32" = 1" |
| Date | Feb. 09, 2016 |

Drawing No.

**WL
8013k**

Saving Lives through Innovation and Education

MULTIPLE PENETRATIONS THROUGH GYPSUM WALL ASSEMBLY

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

T-RATING = 0-HR.

L-RATING AT AMBIENT = 5 CFM / SQ FT

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4. CABLES TO BE ANY COMBINATION OF THE FOLLOWING :
 - A. MAXIMUM 750 KCMIL SINGLE CONDUCTOR POWER CABLE.
 - B. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR CABLE.
 - C. MAXIMUM 100 PAIR NO. 24 AWG TELEPHONE CABLE.
5. ANY COMBINATION OF THE FOLLOWING PENETRANTS MAY BE USED :
 - A. MAXIMUM 3" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40, SOLID CORE) (CLOSED OR VENTED PIPING SYSTEMS).
 - B. MAXIMUM 6" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).
 - C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
 - D. MAXIMUM 4" NOMINAL DIAMETER EMT.
 - E. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE.
6. [NOT SHOWN] NOMINAL 1-1/2" GLASS-FIBER PIPE INSULATION MAY BE USED ON ANY OR ALL METALLIC PIPES.
7. MAXIMUM 1-1/2" DIAMETER CABLE BUNDLE TO CONSIST OF ANY OF THE FOLLOWING :
 - A. FIBER-OPTIC CABLE (24 FIBER).
 - B. RG 59 COAXIAL CABLE.
 - C. MAXIMUM 25 PAIR NO. 24 AWG TELEPHONE CABLE.
 - D. MAXIMUM 7/C NO. 12 AWG COPPER CONDUCTOR.
8. HILTI CFS-BL FIRESTOP BLOCK (2" THICK x 8" WIDE x 5" DEEP, REFERENCE : FRONT VIEW) FIRMLY PACKED AND CENTERED WITHIN OPENING.

| ANNULAR SPACE | MINIMUM | MAXIMUM |
|---|---------|---------|
| BETWEEN CABLE TRAY AND PERIPHERY OF OPENING | 1" | 7" |
| BETWEEN PIPE (ITEMS) AND PERIPHERY OF OPENING | 1-1/2" | 9-1/4" |
| BETWEEN CABLE BUNDLE AND PERIPHERY OF OPENING | 1-3/16" | 1-1/2" |

NOTES : 1. MAXIMUM AREA OF OPENING = 352 SQ. IN., WITH A MAXIMUM DIMENSION OF 22".
 2. FOR WALLS CONSTRUCTED OF STEEL STUDS LARGER THAN 3-5/8", FIRESTOP BLOCKS SHOULD BE INSTALLED 8" DEEP, RECESSED UP TO A MAXIMUM 1/2" FROM OUTER WALL SURFACES.
 3. CABLES TO FILL MAXIMUM 30% OF CROSS-SECTIONAL AREA OF CABLE TRAY.
 4. APPLY HILTI FS-ONE MAX INTUMESCENT FIRESTOP SEALANT, HILTI CP 618 FIRESTOP PUTTY STICK, HILTI CP 620 FIRE FOAM, OR HILTI CP 660 FIRESTOP FOAM INTO ANY VOID THAT MAY EXIST (AROUND PENETRANTS, INTO INTERSTICES OF CABLES, BETWEEN CABLES AND CABLE TRAY, OR BETWEEN FIRESTOP BLOCKS), TO MAXIMUM EXTENT POSSIBLE.



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