

UL/cUL SYSTEM NO. W-L-8015

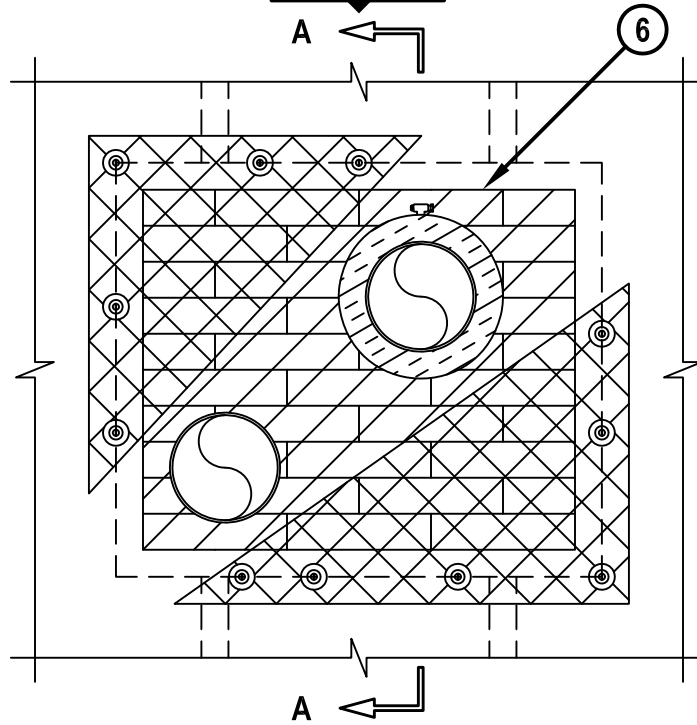
MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

F-RATING = 1-HR., 2-HR., 3-HR., OR 4-HR.

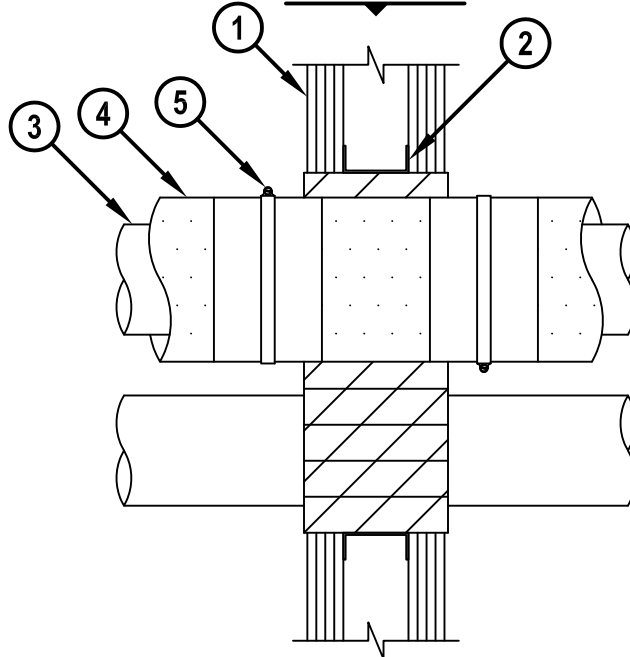
T-RATING = 0-HR.

WL8015b.011415

FRONT VIEW



SECTION A-A



Hilti Firestop Systems

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

Sheet	1 of 2
Scale	3/32" = 1"
Date	Jan. 14, 2015

Drawing No.

**WL
8015b**

Saving Lives through Innovation and Education

MULTIPLE PENETRANTS THROUGH GYPSUM WALL ASSEMBLY

F-RATING = 1-HR., 2-HR., 3-HR., OR 4-HR.

T-RATING = 0-HR.

WL8015b.011415

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HR., 2-HR., 3-HR., OR 4-HR. FIRE-RATING) (4-HR. SHOWN) TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES :
 - A. STEEL STUDS TO BE MINIMUM 3-5/8" WIDE (SPACED MAXIMUM 24" OC).
 - B. NOMINAL 1/2" THICK GYPSUM WALLBOARD. TYPE, NUMBER OF LAYERS, AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL DESIGN.
2. OPENING TO BE FRAMED OUT WITH ADDITIONAL FRAMING MEMBERS.
3. PENETRATING ITEMS (MAX. QTY. = 2) TO CONSIST OF ANY COMBINATION OF THE FOLLOWING :
 - A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE OR TUBING.
 - C. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
 - D. MAXIMUM 4" NOMINAL DIAMETER EMT.
4. [OPTIONAL] NOMINAL 1-1/2" THICK GLASS-FIBER PIPE INSULATION (MIN. 3.5 PCF DENSITY).
5. MINIMUM 6" LONG JACKET FORMED OF MINIMUM 0.010" THICKNESS STEEL SHEET SECURED IN PLACE WITH MINIMUM 1/2" WIDE STAINLESS STEEL HOSE CLAMP LOCATED AT CENTER OF JACKET. ENDS OF THE JACKET TO OVERLAP BY A MINIMUM 2" AND EXTEND 1" INTO OPENING.
6. HILTI CFS-BL FIRESTOP BLOCK OR HILTI FS 657 FIRE BLOCK (2" THICK x 8" WIDE x 5" DEEP [FOR 1-HR. OR 2-HR. ASSEMBLIES] OR 2" THICK x 5" WIDE x 8" DEEP [FOR 3-HR. OR 4-HR. ASSEMBLIES], REFERENCE : FRONT VIEW) FIRMLY PACKED WITHIN OPENING. EITHER ONE OR A COMBINATION OF BLOCK TYPES MAY BE USED.

- NOTES :**
1. MAXIMUM AREA OF OPENING = 480 SQ. IN., WITH A MAXIMUM DIMENSION OF 24".
 2. ANNULAR SPACE BETWEEN PIPES, CONDUITS, OR TUBING AND PERIPHERY OF OPENING = MINIMUM 1-1/2", MAXIMUM 4".
 3. ANNULAR SPACE BETWEEN PIPES, CONDUITS, OR TUBING = MINIMUM 4", MAXIMUM 6-3/4".
 4. ANNULAR SPACE BETWEEN INSULATED PIPES AND PERIPHERY OF OPENING = NOMINAL 1-1/2".
 5. APPLY HILTI FS-ONE MAX OR FS-ONE INTUMESCENT FIRESTOP SEALANT OR HILTI CP 618 FIRESTOP PUTTY STICK IN ANY VOID THAT MAY EXIST AROUND PENETRANTS OR FIRESTOP/FIRE BLOCKS.
 6. IF THE ANNULAR SPACE IS GREATER THAN 4", THEN ATTACH A STEEL WIRE MESH (NOMINAL 2" SQUARES, NO. 16 SWG) WITH 1/4" HILTI TOGGLER BOLTS WITH 1-1/2" DIAMETER FENDER WASHERS (SPACED MAXIMUM 8" C/C) OR ATTACHED TO STEEL STUDS WITH STEEL SCREWS AND 1-7/16" FENDER WASHERS (SPACED MAXIMUM 6" C/C) ON BOTH SIDES OF WALL. STEEL WIRE MESH SHALL BEGIN MAXIMUM 2-1/2" FROM THE PENETRANT AND OVERLAP MINIMUM 3" BEYOND THE PERIPHERY OF THE OPENING.



Hilti Firestop Systems

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

Sheet 2 of 2

Scale -

Date Jan. 14, 2015

Drawing No.

**WL
8015b**