

MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

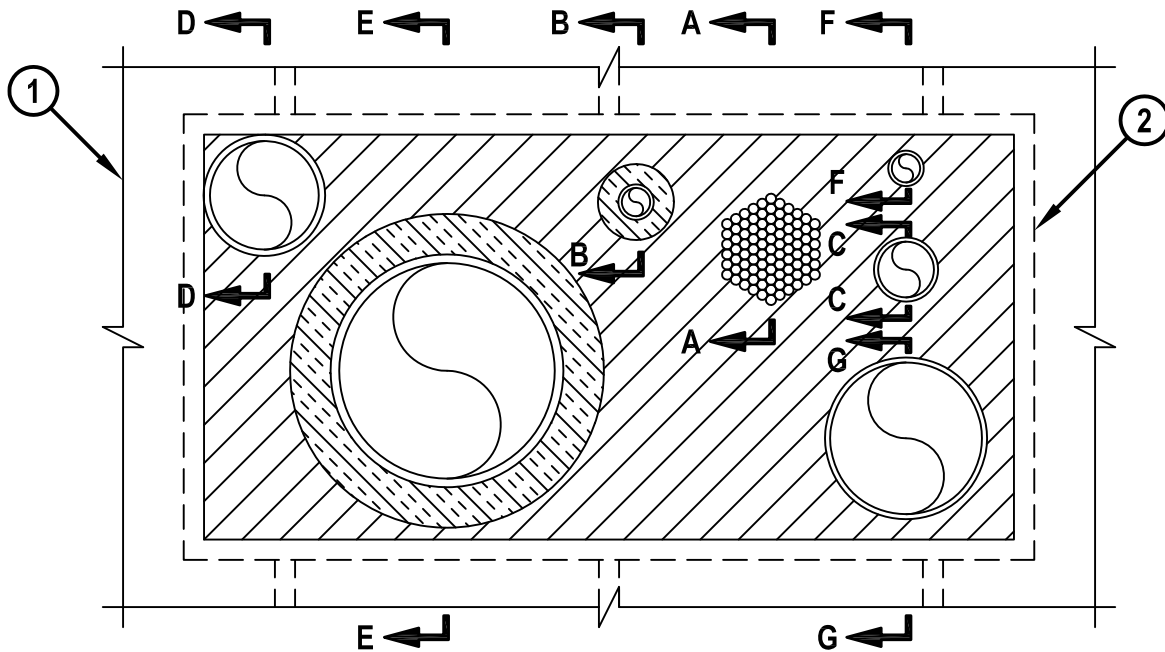
FT-RATING = 0-HR., 1/2-HR., 1-HR., 1 1/2-HR., OR 2-HR.

FH-RATING = 0-HR.

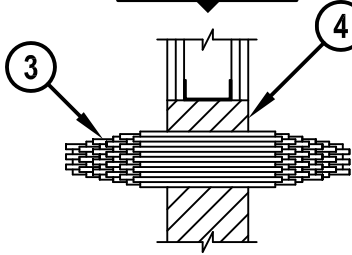
FTH-RATING = 0-HR.

cUL WL8104a.012816

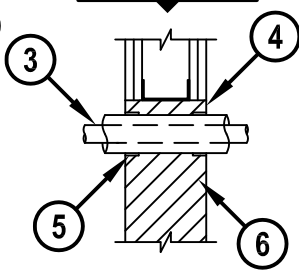
FRONT VIEW



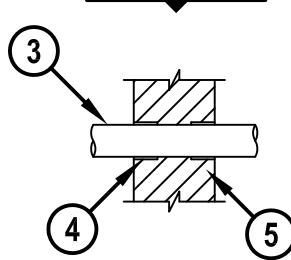
SECTION A-A



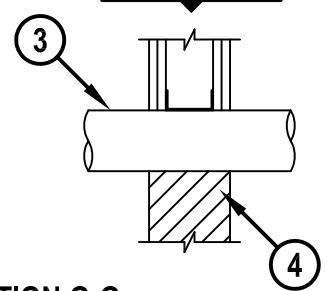
SECTION B-B



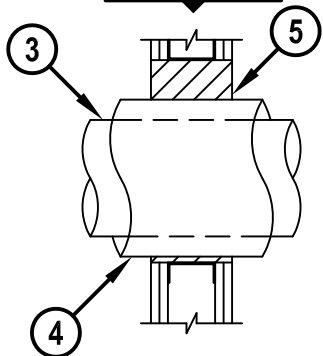
SECTION C-C



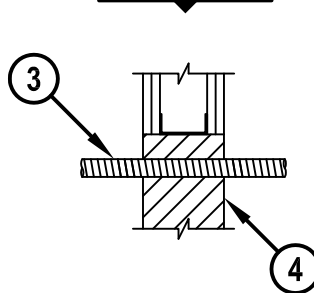
SECTION D-D



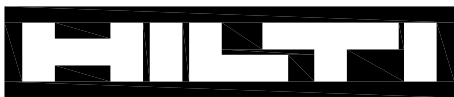
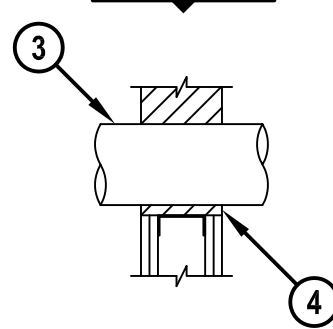
SECTION E-E



SECTION F-F



SECTION G-G



Hilti Firestop Systems

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

Sheet 1 of 4

Scale -

Date Jan. 28, 2016

Drawing No.

cUL
WL8104a

Saving Lives through Innovation and Education

MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

FT-RATING = 0-HR., 1/2-HR., 1-HR., 1 1/2-HR., OR 2-HR.

FH-RATING = 0-HR.

FTH-RATING = 0-HR.

cUL WL8104a.012816

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. OPENING TO BE "FRAMED OUT" WITH LIGHTGAGE STEEL STUDS (MINIMUM 3-1/2" WIDE).

FIRESTOP CONFIGURATION A

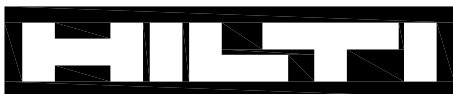
3. MAXIMUM 4" DIAMETER CABLE BUNDLE CONSISTING OF ANY OF THE FOLLOWING CABLES :
 - A. MAXIMUM 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
 - B. MAXIMUM RG 59 COAXIAL CABLE WITH PVC JACKET.
 - C. MAXIMUM 7/C NO. 12 AWG POWER CABLE WITH PVC JACKET.
 - D. MAXIMUM 3/8" DIAMETER FIBER-OPTIC CABLE WITH PVC JACKET.
 - E. MAXIMUM 3/C NO. 12 AWG METAL-CLAD CABLE.
 - F. MAXIMUM 3/C NO. 8 (+ GROUND) ROMEX POWER CABLE WITH PVC JACKET.
4. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING

NOTE : MINIMUM ANNULAR SPACE BETWEEN THE CABLE BUNDLE AND THE PERIPHERY OF THE OPENING AND BETWEEN ADJACENT PENETRANTS = 3/8" AND 4", RESPECTIVELY.

FIRESTOP CONFIGURATION B

3. MAXIMUM 1" NOMINAL DIAMETER COPPER PIPE OR TUBING.
4. NOMINAL 3/4" THICK AB/PVC PIPE INSULATION.
5. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE INSULATED PIPE, ONCE, AND HELD IN PLACE WITH TAPE, FLUSH WITH BOTH SURFACES OF WALL.
6. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTE : MINIMUM SPACING BETWEEN INSULATED PIPE AND PERIPHERY OF OPENING AND ADJACENT PENETRANTS = 3/8" AND 1-1/2", RESPECTIVELY.



Hilti Firestop Systems

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

Sheet 2 of 4

Scale -

Date Jan. 28, 2016

Drawing No.

**cUL
WL8104a**

MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

FT-RATING = 0-HR., 1/2-HR., 1-HR., 1 1/2-HR., OR 2-HR.

FH-RATING = 0-HR.

FTH-RATING = 0-HR.

cUL WL8104a.012816

FIRESTOP CONFIGURATION C

3. MAXIMUM 2" NOMINAL DIAMETER PVC PLASTIC PIPE (SCHEDULE 40, SOLID OR CELLULAR CORE) (CLOSED OR VENTED PIPING SYSTEM).
4. HILTI CP 648E WRAP STRIP (NOMINAL 3/16" THICK x 1-3/4" WIDE) CONTINUOUSLY WRAPPED AROUND THE OUTER CIRCUMFERENCE OF THE PLASTIC PIPE, ONCE, AND HELD IN PLACE WITH TAPE, FLUSH WITH BOTH SURFACES OF WALL.
5. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTES : 1. MINIMUM SPACING BETWEEN PVC PIPE AND PERIPHERY OF OPENING = 3/8".
 2. MINIMUM SPACING BETWEEN NONMETALLIC AND METALLIC PENETRANTS = 1" & 3-1/2" RESPECTIVELY.

FIRESTOP CONFIGURATION D

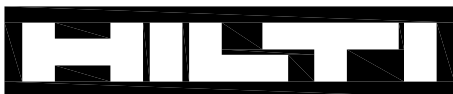
3. MAXIMUM 4" NOMINAL DIAMETER STEEL PIPE, CAST IRON PIPE, COPPER PIPE, STEEL CONDUIT, OR EMT.
4. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTE : MINIMUM SPACING BETWEEN COPPER PIPE AND PERIPHERY OF OPENING AND ADJACENT PENETRANTS = 0" AND 3-1/2", RESPECTIVELY.

FIRESTOP CONFIGURATION E

3. MAXIMUM 8" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 40 OR HEAVIER).
4. NOMINAL 1-1/2" THICK GLASS-FIBER PIPE INSULATION.
5. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTE : MINIMUM SPACING BETWEEN INSULATED PIPE AND PERIPHERY OF OPENING AND ADJACENT PENETRANTS = 3/8" AND 2", RESPECTIVELY.



Hilti Firestop Systems

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

Sheet	3 of 4
Scale	-
Date	Jan. 28, 2016

Drawing No.

cUL
WL8104a

MULTIPLE PENETRATING ITEMS THROUGH GYPSUM WALL ASSEMBLY

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

FT-RATING = 0-HR., 1/2-HR., 1-HR., 1 1/2-HR., OR 2-HR.

FH-RATING = 0-HR.

FTH-RATING = 0-HR.

cUL WL8104a.012816

FIRESTOP CONFIGURATION F

- 3. MAXIMUM 1" DIAMETER FLEXIBLE STEEL CONDUIT.
- 4. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTE : MINIMUM SPACING BETWEEN STEEL CONDUIT AND PERIPHERY OF OPENING AND ADJACENT PENETRANTS = 3/8" AND 3-1/2" RESPECTIVELY.

FIRESTOP CONFIGURATION G

- 3. MAXIMUM 6" NOMINAL DIAMETER SHEET METAL DUCT (MIN. 28 GA.).
- 4. HILTI CP 660 FIRESTOP FOAM INSTALLED FLUSH WITH BOTH SURFACES OF THE WALL :
 - A. MINIMUM 4-3/4" THICKNESS, FOR A 1-HR. FIRE-RATING.
 - B. MINIMUM 6" THICKNESS, FOR A 2-HR. FIRE-RATING.

NOTE : MINIMUM SPACING BETWEEN SHEET METAL DUCT AND PERIPHERY OF OPENING AND ADJACENT PENETRANTS = 3/8" AND 1-1/2", RESPECTIVELY.

NOTES : 1. MAXIMUM SIZE OF OPENING = 30" x 15".
2. A MAXIMUM OF SEVEN FIRESTOP CONFIGURATIONS MAY BE INSTALLED WITHIN THE OPENING.



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

Sheet	4 of 4
Scale	-
Date	Jan. 28, 2016

Drawing No.
cUL
WL8104a