

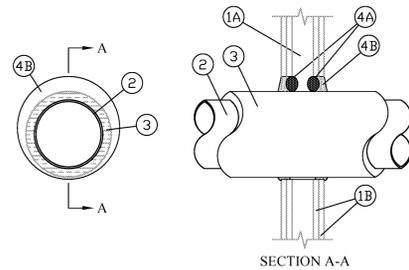
System No. W-L-5115

August 13, 2008

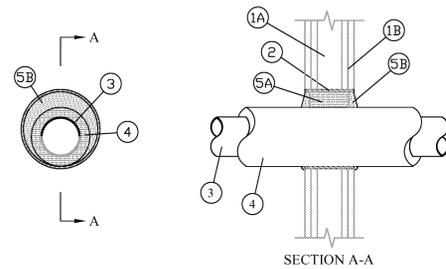
F Ratings - 1 and 2 Hr (See Item 1)

T Ratings - 0, 1/2 and 1 Hr (See Item 5)

Leakage Rating at Ambient - Less Than 1 CFM/sq ft



FIRESTOP CONFIGURATION A



CONFIGURATION B

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(UL/CUL)

1 INSULATED STEEL, IRON OR COPPER PIPE PENETRATION THROUGH GYPSUM BOARD WALL (1 of 2)
SCALE: NONE

System No. W-L-5115

August 13, 2008

F Ratings - 1 and 2 Hr (See Item 1)

T Ratings - 0, 1/2 and 1 Hr (See Item 5)

Leakage Rating at Ambient - Less Than 1 CFM/sq ft

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.

B. Gypsum Board* - One or Two layers of nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Max diam of opening is 12 in. (305 mm). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Steel Sleeve - (See Table in Item 5.) Nom. 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve friction fit in wall assembly, or max 12 in. (305 mm) diam cylindrical sleeve fabricated from min 0.013 in. (0.330 mm) thick (No. 30 gauge) to max 0.056 in. (1.42 mm) (No. 16 gauge) galv steel sheet and having a min 1 in. (25 mm) lap along the longitudinal seam. Ends of sleeve to be flush with both surfaces of wall. Cylindrical sleeve to be installed by coiling the sheet metal to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers.

3. Through Penetrants - One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

A. Steel Pipe - Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

C. Copper Tubing - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

D. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

4. Pipe Covering* - Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or with butt tape supplied with the product. See Table in Item 5 for annular space required between insulated penetrant and periphery of opening. See Pipe and Equipment Covering-Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

5. Firestop System - The firestop system shall consist of the following:

A. Packing Material - (Optional, See Table in Item 5) - Foam backer rod firmly packed into the opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

A1. Packing Material - (See Table in Item 5) - Min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* - Caulk - Fill material applied within the annulus, flush with both surfaces of wall or overlapping min 1/4 in. (6 mm) onto wall surfaces when the steel sleeve is used. See Table below for min thickness of fill material. Additional fill material to be installed such that a min 3/8 in. (10 mm) crown is formed around the penetrating item.

*Bearing the UL Classification Marking

Sleeve	Packing Matl.	Min. Annular	Max. Annular	Min. Fill Material Thickness	T. Rating
None	Opt. Foam Backer	1/4"	1 1/4"	1"	1 Hr.
Sch. 10	Mineral Wool	0"	1 9/16"	1/2"	0 Hr.
Cylindrical	Mineral Wool	0"	1 9/16"	1/2"	0 Hr.
Cylindrical	Opt. Foam Backer	0"	1 3/8"	5/8"	1/2 Hr.

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(UL/CUL)

1 INSULATED STEEL, IRON OR COPPER PIPE PENETRATION THROUGH GYPSUM BOARD WALL (2 of 2)
SCALE: NONE

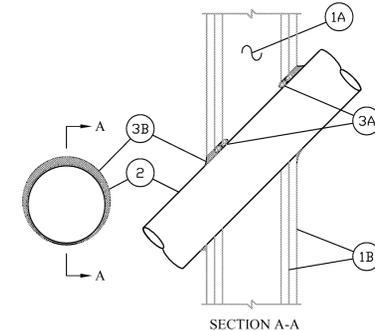
System No. W-L-1158

August 28, 2008

F Ratings - 1 and 2 Hr (See Item 1)

T Rating - 0 Hr

L Rating at Ambient - Less Than 1 CFM/sq ft



NOTE:
WHERE INSULATED RAIN LEADER OR CONDENSATE DRAIN PIPING IS USED, DO NOT RUN INSULATION THROUGH WALL

1. Wall Assembly - The 1 or 2 hour fire-rated gypsum board stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.

B. Gypsum Board* - One or two layers of nom 1/2 or 5/8 in. (13 or 16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Max diam of opening is 15-1/8 in. (384 mm). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

1A. Steel Sleeve - (Optional, Not shown.) Cylindrical sleeve fabricated from min 0.013 in. (0.330 mm) thick (No. 30 gauge) to max 0.056 in. (1.42 mm) (No. 16 gauge) galv steel sheet and having a min 1 in. (25 mm) lap along the longitudinal seam. Ends of sleeve to be trimmed flush with both surfaces of wall. Sleeve to be installed by coiling the sheet metal to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers.

2. Through Penetrants - One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. Pipe, tubing or conduit to be rigidly supported on both sides of wall assembly. The pipe, tubing or conduit may be installed at an angle provided the annular space is maintained on both sides of the wall assembly. The annular space shall be min 0 (point contact) in. to max 1-7/8 in. (48 mm). The following types and sizes of metallic pipe tubing or conduit may be used:

A. Steel Pipe - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. diam (or smaller) steel conduit.

D. Copper Tubing - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. Firestop System - The firestop system shall consist of the following:

A. Packing Material - (Optional) - Foam backer rod firmly packed into the opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* - (Caulk) Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. When annular space exceeds 1/2 in. (13 mm), the min thickness of fill material is 5/8 in. (16 mm). Additional fill material to be installed such that a min 3/8 in. (10 mm) crown is applied at the pipe/wall interface at the point contact location.

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(UL/CUL)

2 UNINSULATED STEEL, IRON, OR COPPER PIPE PENETRATION THROUGH GYPSUM BOARD WALL (1 of 1)
SCALE: NONE



REVISIONS:

DATE:
AUGUST 28, 2012

DRAWN BY:
AMB

SHEET TITLE:
DETAILS -
PLUMBING

SHEET NO:
P3.3