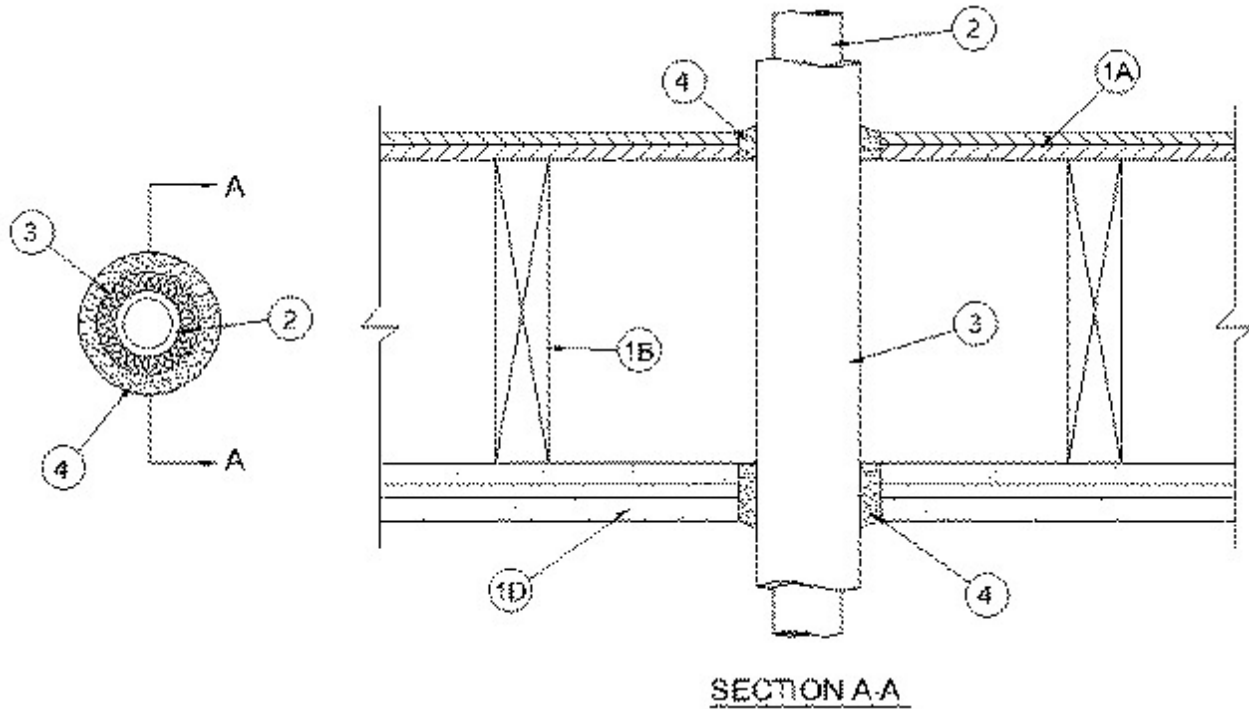




### System No. F-C-5010

February 06, 2014

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 2 Hr	FT Rating — 2 Hr
	FH Rating — 2 Hr
	FTH Rating — 2 Hr



**1. Floor Ceiling Assembly** — The fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design No. L505, L511 or L536 in the UL Fire Resistance Directory, as summarized below:

**A. Flooring System** — Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 4-3/4 in. (121 mm).

**B. Wood Joists** — Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped.

**C. Furring Channels** — (Not Shown) — Resilient galv steel furring installed perpendicular to wood joists between first and second layers of gypsum board (Item 1D) and spaced max 24 in. (610 mm) OC.

**D. Gypsum Board\*** — Nom 4 ft (1.2 m) wide by 5/8 in.(16 mm) thick as specified in the individual Floor-Ceiling Design. First layer of gypsum board nailed to wood joists. Second layer of gypsum board screw-attached to furring channels. Max diam of ceiling opening is 4-3/4 in. (121 mm).

**1.1. Chase Wall** — (Optional, not shown) - The through penetrant (Item 2) may be routed through a fire-rated single, double or staggered wood stud/gypsum board chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

B. **Sole Plate** — Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening is 4-3/4 in. (121 mm).

C. **Top Plate** — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening is 4-3/4 in. (121 mm).

D. **Gypsum Board\*** — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

2. **Through Penetrant** — One metallic pipe or tubing to be installed approximately midway between wood joists and installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of metallic pipes or tubing may be used:

A. **Steel Pipe** — Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Copper Tubing** — Nom 1-1/2 in. (38 mm) diam (or smaller) Type L (or heavier) copper tubing.

C. **Copper Pipe** — Nom 1-1/2 in. (38 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. **Pipe Covering\*** — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m<sup>3</sup>) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated penetrating item and the periphery of the opening shall be a min of 1/2 in. (13 mm) to a max of 5/8 in. (16 mm).

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 of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. **Fill, Void or Cavity Material\* - Sealant** — At the top of the assembly, a min 3/4 in. (19 mm) thickness of fill material applied within annulus, flush with top surface of floor. Min 1-1/4 in. (32 mm) thickness of fill material applied within annulus on bottom surface of ceiling or lower top plate of chase wall assembly. Additional fill material to be installed such that a min 1/4 in. (6 mm) crown is formed around the through penetrants on top surface of floor and bottom surface of ceiling or lower top plate of chase wall assembly.

**RECTORSEAL** — FlameSafe FS 1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.