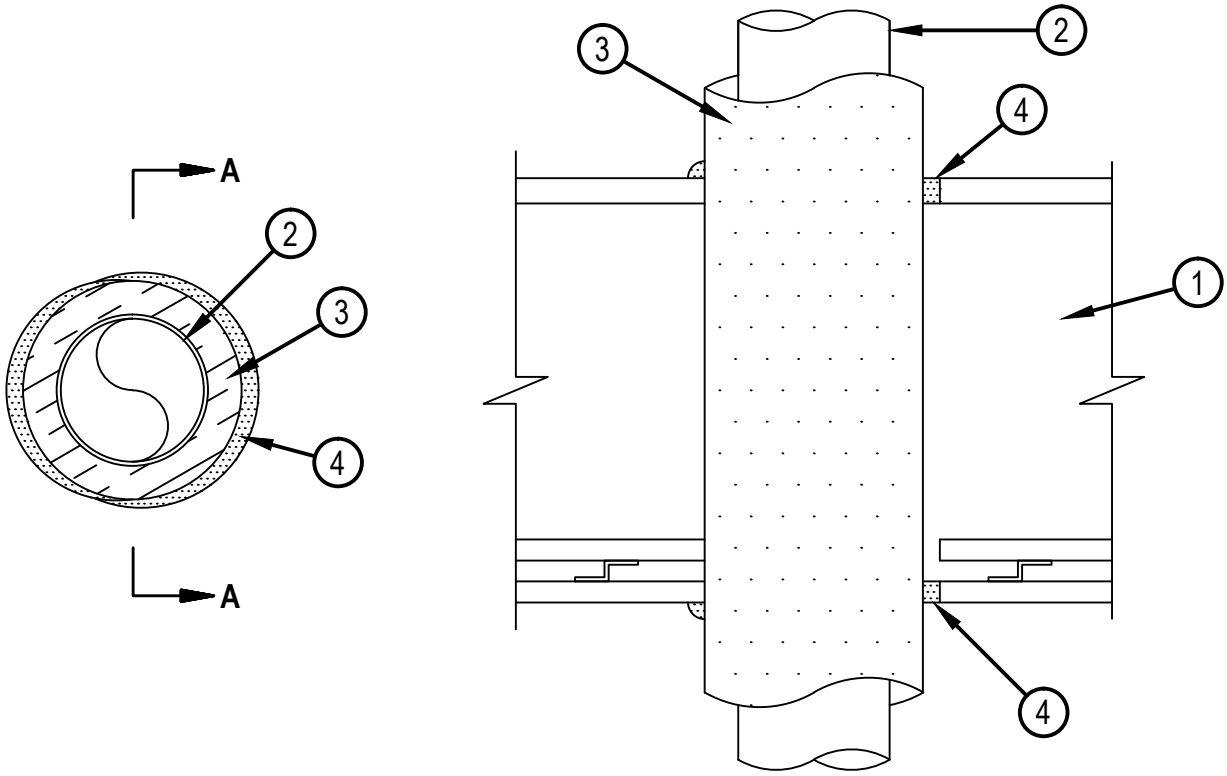
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-C-5088

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 or 2 Hr (See Item 1)	F Rating — 1 or 2 Hr (See Item 1)
T Rating — 1 or 2 Hr (See Item 1)	FT Rating — 1 or 2 Hr (See Item 1)
	FH Rating — 1 or 2 Hr (See Item 1)
	FTH Rating — 1 or 2 Hr (See Item 1)



SECTION A-A

1. Floor-Ceiling Assembly — The 1 or 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The Ratings of the firestop system are equal to the rating of the floor-ceiling and wall assemblies. The general construction features of the floor-ceiling assembly are 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 opening shall be 7 in. (178 mm).
   B. Wood Joists* — Nom 10 in (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 7 in. (178 mm).
   D. Furring Channels — (Not Shown) (As required) Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

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1.1. Chase Wall — (Not Shown, Optional) — The through penetrants (Item 2) may be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard 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 8 in. (51 by 203 mm) lumber or double nom 2 by 6 in. (51 by 152 mm) lumber studs.

B. Sole Plate — Nom 2 by 8 in. (51 by 203 mm) lumber or parallel 2 by 6 in. (51 by 152 mm) lumber plates, tightly butted. Max diam of opening shall be 7 in. (178 mm).

C. Top Plate — The double top plate shall consist of two nom 2 by 8 in. (51 by 203 mm) lumber plates or two sets of nom 2 by 6 in. (51 by 152 mm) lumber plates tightly butted. Max diam of opening is 7 in. (178 mm).

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

2. Through Penetrants — One metallic pipe or tubing to be installed 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 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 4 in. (102 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.

3. 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 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 pipe and the edge of the periphery of the opening shall be min of 0 in. (point contact) to a max of 1/2 in. (29 mm).

4. Fill, Void or Cavity Material* — Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within annulus flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within annulus flush with bottom surface of ceiling or bottom surface of lower top plate. A min 1/2 in. (13 mm) bead of fill material is applied to area of point contact on both sides of floor ceiling assembly.

HILTI INC — FS-ONE MAX Intumescent Sealant

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