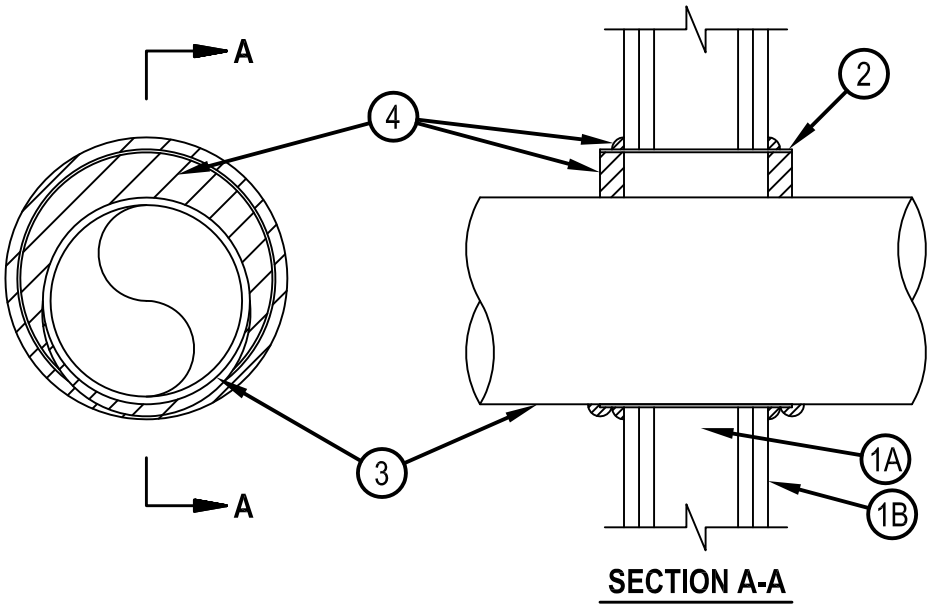
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-1465

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 or 2 Hr (See Item 1)	F Ratings — 1 or 2 Hr (See Item 1)
T Rating — 0 and 1/4 Hr (See Item 1)	FT Rating — 0 and 1/4 Hr (See Item 1)
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Rating — 1 or 2 Hr (See Item 1)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Rating — 0 and 1/4 Hr (See Item 1)
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

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, V400 or W400 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 max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Thickness, type, number of layers and orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 10 in. (254 mm).

   The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The T, FT, FTH Ratings are 0 and 1/4 hr for 1 and 2 hr rated wall assemblies, respectively.
2. Steel Sleeve — Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. The ends of the steel sleeve shall be flush with or extend max 1 in. (25 mm) beyond each surface of the wall.

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3. Through Penetrants — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of sleeve shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits 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. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) 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.

Configuration A

4. Fill, Void or Cavity Material* — Sealant — Min 1 in. (25 mm) thickness of sealant applied within annulus, flush with both ends of sleeve. A min 1/4 in. (6 mm) diam bead of sealant to be applied at the tubing/sleeve interface at the point contact location and around the entire perimeter of the sleeve at the sleeve/gypsum board interface when the sleeve extends beyond the wall surface.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Sealant, FS ONE Sealant or FS-ONE MAX Intumescent Sealant

Configuration B

4. Firestop System — The firestop system shall consist of the following items:
   A. Packing Material — Min 5/8 in. (16 mm) thickness of min 4 pcf Mineral wool bat insulation compressed and tightly and packed in to each end of the sleeve. Packing material is to be recessed from each end of the sleeve to accommodate fill material.
   A1. Packing Material* - Strips — (As an alternate to Config ,B Item 4A) - Nom 5/8 in. in. (16 mm) wide precut mineral wool strips. The strips are firmly packed into the gap between penetrant and the steel sleeve Item 2 on both sides of the wall. Packing material is to be recessed from each end of the sleeve to accommodate fill material.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

   B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of sealant applied within annulus, flush with both ends of sleeve. A min 1/4 in. (6 mm) diam bead of sealant to be applied at the tubing/sleeve interface at the point contact location and around the entire perimeter of the sleeve at the sleeve/gypsum board interface when the sleeve extends beyond the wall surface.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Sealant or FS ONE Sealant or 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.