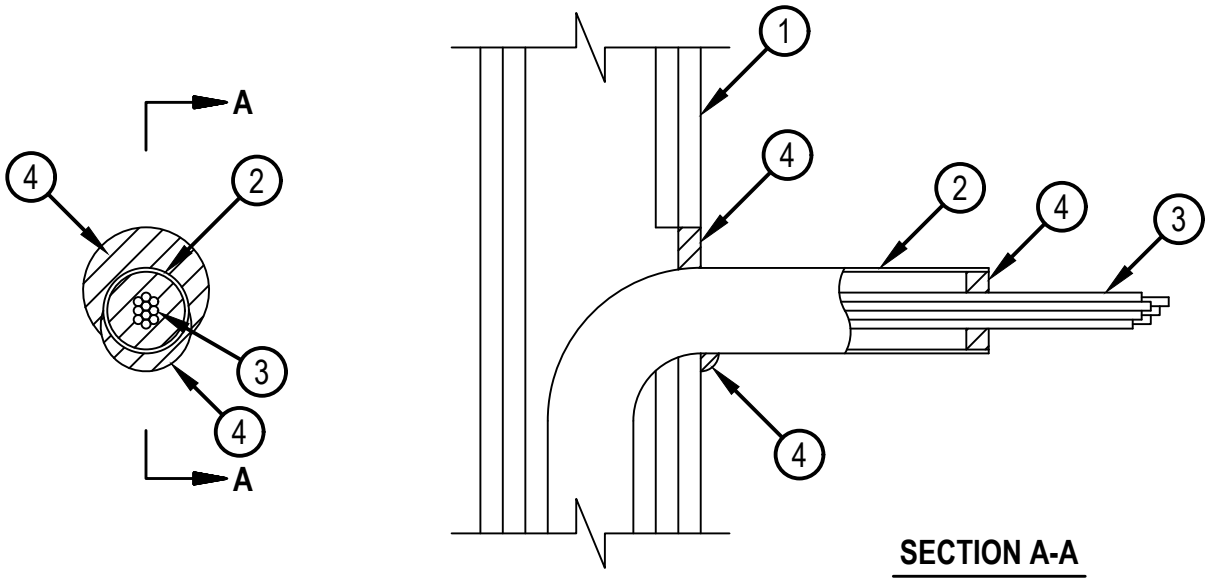
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-3506

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 and 2 Hr (See Item 1)
	FTH Rating — 0 Hr



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 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Max diam of opening is 3-1/2 in. (89 mm).

The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly.

System No. W-L-3506

2. Aluminum Sleeve —- Nom 2 in. (51 mm) diam (or smaller) aluminum conduit, aluminum electrical metallic tubing (EMT) or Schedule 5 (or heavier) aluminum pipe. The annular space between aluminum sleeve and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1-1/2 in. (38mm). The sleeve may extend up to 18 in. (457 mm) beyond one or both wall surfaces. As an option the sleeve may extend continuously beyond one wall surface. Sleeve to be rigidly supported on penetrated side of the wall assembly.
3. Cables — Aggregate cross-sectional area of cable in opening to be min 0 to max 45 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 0 in. (point contact). Cables to be rigidly supported on penetrated side of the wall assembly. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and jacket.
   B1. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.
   C. Type RG/U coaxial cable with polyethylene (PE) insulation and PVC jacket having a max outside diameter of 1/2 in. (13 mm).
   C1. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.
   D. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 5/8 in. (16 mm).
   E. Through Penetrating Products*— Max three copper conductor No. 8 AWG .Metal-Clad Cable+.
      AFC CABLE SYSTEMS INC
   F. Max 3/C (with ground)(or smaller) No. 8 AWG copper conductor cable with PVC insulation and jacketing.
   G. Max 3/4 in. (19 mm) diam copper ground cable with or without a PVC jacket.
   H. Fire Resistive Cables* - Max 1-1/4 in. (32 mm) diam single conductor or multi conductor Type MI cable. A min 1/8 in. (3 mm) separation shall be maintained between MI cables and any other types of cable.
   I. Max 4/C with ground 300 kcmil (or smaller) aluminum SER cable with PVC insulation and jacket.
   J. Through Penetrating Product* - Any cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category.
   K. Maximum 3/C No. 8 AWG metal-clad cable.
   L. Maximum 5/8 diam fiber-optic cable with PVC jacket.

   See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
4. Fill, Void or Cavity Material*— Sealant — Min 5/8 in. (16 mm) of fill material applied within the annulus around the sleeve, and flush with each end of the sleeve that is not continuous beyond wall surface. At the point contact location between sleeve and wall a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the sleeve to wall interface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC —FS-ONE MAX Intumescent Sealant
5. Packing Material — (Optional, Not Shown) — Mineral wool forming material, polyurethane backer rod or polyethylene backer rod may be used as a backer for the fill material (Item 4). When used, it shall be firmly packed into annular space within the sleeve as a permanent form and recessed from end of sleeve to accommodate the required thickness of fill material.

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

+Bearing the UL Listing Mark