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to UL 1479 and CAN/ULC-S115

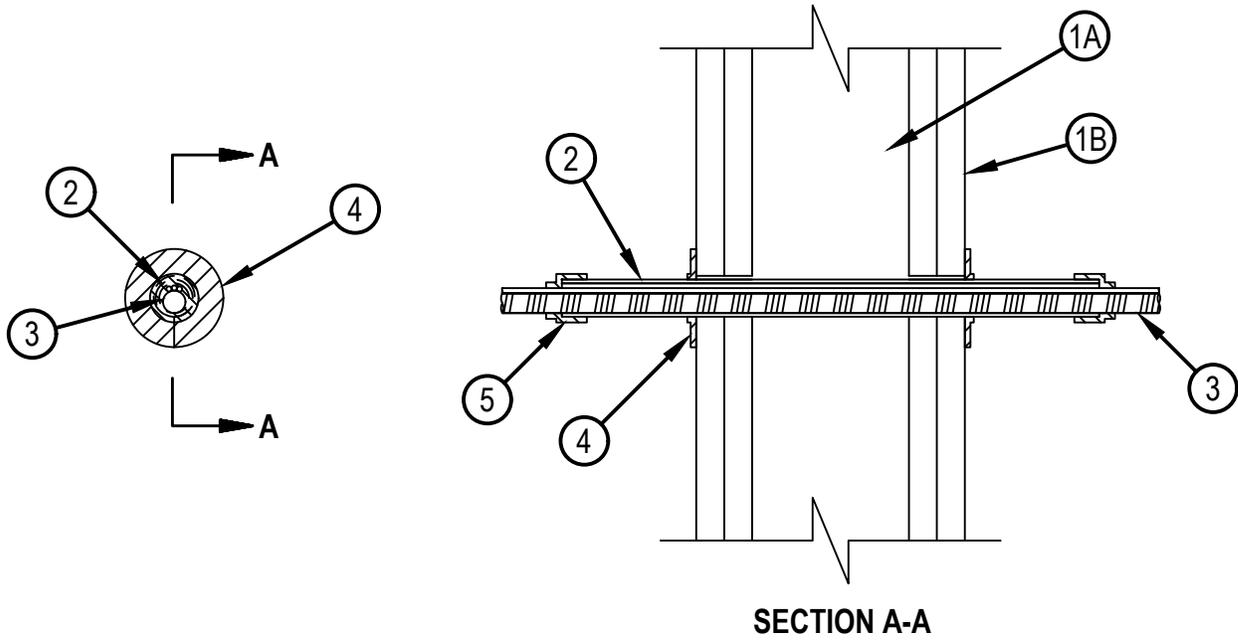
System No. W-L-3441

WL 3441

ANSI/UL1479 (ASTM E814)

CAN/ULC S115

F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1/2, 1 and 2 Hr (See item 2 and 6)	FT Ratings — 0, 1/2, 1 and 2 Hr (See item 2 and 6)
L Rating at Ambient — Less than 1 CFM/Opening	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating at 400 F — Less than 1 CFM/Opening	FTH Ratings— 0, 1/2, 1 and 2 Hr (See item 2 and 6)
	L Rating at Ambient — Less than 5.1 L/s/m ² /Opening
	L Rating at 204 C — Less than 5.1 L/s/m ² /Opening



1. Wall Assembly — The 1 or 2 fire-rated gypsum wallboard/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 3-1/2 in. (89 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. Opening may be round, rectangular or irregular with a max diam or dimension of 1-1/4 in. (31 mm).

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



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2. Metallic Sleeve — One of the following sleeves shall be installed:

- A. Nom 1 in. (25 mm) diam (or smaller) rigid steel conduit sleeve, steel EMT sleeve or steel pipe sleeve (Schedule 5 or heavier) installed flush with wall surfaces. The annular space between steel sleeve and periphery of opening shall be min 0 in. (point contact) to max 1/8 in. (3 mm). When opening dimension exceeds 1 in. (25 mm), max annular space is 3/8 in. (10 mm). The sleeve may extend up to 12 in. (305 mm) beyond one or both wall surfaces. As an option, sleeve may extend continuously beyond one wall surface. The conduit sleeve shall be secured to the adjacent stud within the wall cavity with a steel conduit strap attached to web of stud with min two no. 8 sheet metal screws with washers or shall be rigidly supported on those sides of the wall where the sleeve is extended. As an option, the sleeve may be provided with a plastic grommet at the ends of the sleeve.
- B. Nom 1 in. (25 mm) diam (or smaller) aluminum conduit sleeve, aluminum EMT sleeve or aluminum pipe sleeve (Schedule 5 or heavier) installed flush with wall surfaces. The annular space between aluminum sleeve and periphery of opening shall be min 0 in. (point contact) to max 1/8 in. (3 mm). The sleeve may extend up to 12 in. (305 mm) beyond one or both wall surfaces. As an option, sleeve may extend continuously beyond one wall surface. As an option, the sleeve may be provided with a plastic grommet at the ends of the sleeve.

The hourly T, FT, FTH Ratings of the firestop system are equal to the fire rating of the wall assembly when item 2A is used. The hourly T, FT, FTH Ratings of the firestop system are equal to 0 Hr for 1 Hr rated wall assemblies and 1/2 Hr for 2 Hr rated wall assemblies when item 2B is used.

3. Cables — Within the sleeve (Item 2), the cables may represent a 0 to 100 percent visual fill. Cables to be tightly bundled within the sleeve and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:

- A. Max 3/C No. 8 AWG NM copper conductor cable (Romex) with PVC insulation and jacket.
- B. Type RG 6/U coaxial cable with fluorinated ethylene or PVC insulation and jacketing.
- C. Max 24 fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation.
- D. Max 4 pr No. 22 AWG (or smaller) Cat 5 or Cat 6 computer cables with PVC or plenum rated insulation and jacketing.
- E. Maximum 3/C No. 10 AWG copper conductor metal-clad cable.
- F. Through Penetrating Product* — Max two copper conductor No. 18 AWG (or smaller) Power or Non-Power Limited Fire Alarm Cable with or without a jacket under a metal armor.
AFC CABLE SYSTEMS INC
- G. Max 7/C-No. 12 AWG copper conductor control cable with PVC or XLPE insulation and jacket.
- H. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with PVC or plenum rated insulation and jacketing.

4. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the sleeve at each surface of wall to lap min 5 mm onto sleeve and firmly pressed to lap onto the wall around periphery of opening. Disc seams to be firmly pressed and sealed tight, Discs to be installed at both sides of wall opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Cable Disc

5. Fill, Void or Cavity Material* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the cable/cable bundle at exit from each end of sleeve, lapping min 5 mm onto cables to completely cover opening and firmly pressed to lap onto the sleeve periphery. Disc seam to be firmly pressed and sealed tight, Discs to be installed at both sides of wall opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-D 1" Firestop Putty Disc

6. Fill, Void or Cavity Material*— Sealant — As an alternate to Item 4, when annular space is max 1/8 in. (3.2 mm), a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the sleeve/wall interface. Fill material installed symmetrically on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 or FS-ONE MAX Intumescent Sealant (When item 2B is used only FS-ONE MAX Intumescent Sealant is permitted and the hourly T, FT, FTH Ratings of the firestop system are equal to 0 Hr)

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

