



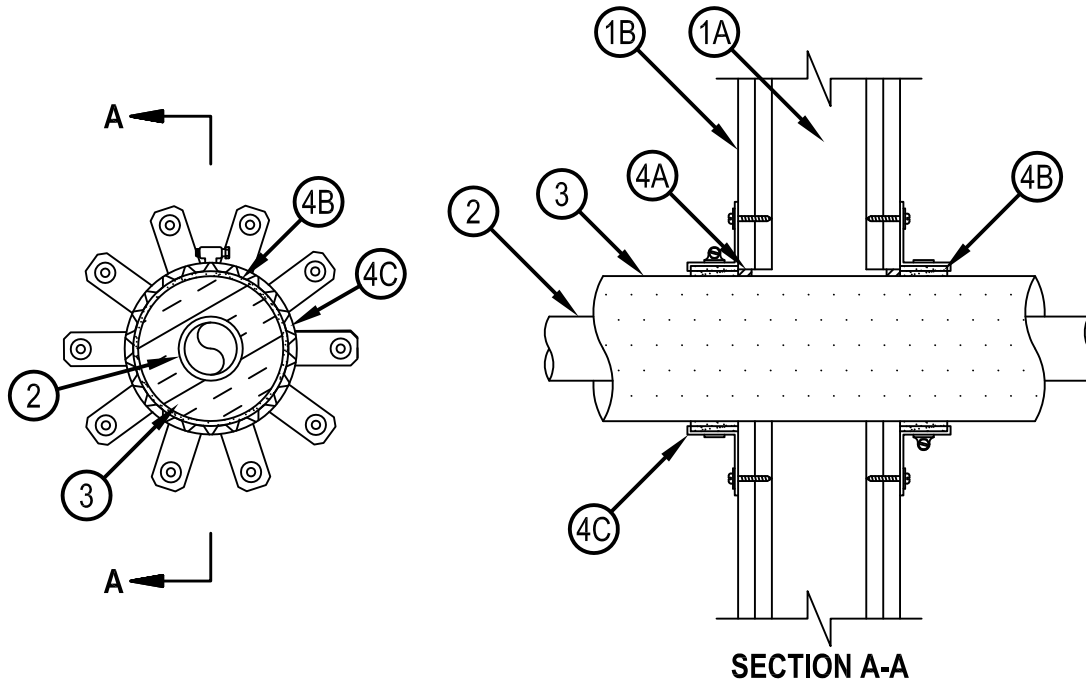
Classified by
Underwriters Laboratories, Inc.
to CAN/ULC-S115

System No. W-L-2043



WL 2043

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 — 1 and 2 Hr (See Item 1)	FT Ratings — 1 and 2 Hr (See Item 1)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 1 and 2 Hr (See Item 1)



System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — The 1 hr or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing shall 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. OC (406 mm). Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — The gypsum board type, thickness number of layers, fastener type and sheet orientation shall be specified in the individual Wall and Partition Design. Max diam of opening is 5-7/8 in. (149 mm).

The hourly F, T, FT, FH and FTH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrants — One nominal 2 in. (51 mm) diam Schedule 80 polypropylene pipe installed either concentrically or eccentrically within the firestop system. Pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Pipe to be rigidly supported on both sides of wall assembly.



Hilti Firestop Systems

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3. Pipe Covering — One of the following types of pipe covering shall be used:

A. Tube Insulation - Plastic+ — Nom 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Annular space between the insulated penetrant and the periphery of the opening shall be min 0 in. (point contact) to max 1/4 in. (6 mm).

See Plastics+ (QMFZ2) category in the Plastic Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

B. Pipe Covering* — Nom 1-1/2 in. (38 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. Annular space between the insulated penetrant and periphery of opening shall be min 0 in. (point contact) to max 1/4 in. (6 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 Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

C. Pipe Covering* — Nom 1-1/2 in. (38 mm) thick unfaced mineral fiber pipe insulation having a min density of 3.5 pcf (56 kg/m³) and sized to fit the outside diam of pipe or tube. Pipe insulation secured with min 18 AWG steel wire spaced 12 in. (305 mm) OC. Annular space between the pipe covering and periphery of opening shall be min 0 in. (point contact) to max 1/4 in. (6 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 Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

D. Sheathing Material* — Used in conjunction with Item 3C. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt tape.

See Sheathing Materials (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. Firestop System — The firestop system shall consist of the following:

A. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly.

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

B. Fill, Void or Cavity Material* — Wrap Strip — Nom 3/16 in. (4.8 mm) thick by 1-3/4 in. (45 mm) wide intumescent wrap strip. Two layers of wrap strip are continuously wrapped around the pipe and held in place with tape. Wrap strips are to be used on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Hilti CP 648E/1-3/4 Wrap Strip

C. Steel Collar — Collar fabricated from coils of precut min 0.017 in. (0.43 mm) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1- 3/4 in. (45 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchors tabs on 2 in. (51 mm) centers for securement to wall assembly. The anchor tabs shall be bent 90 degree outward for securement to the wall assembly. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam. A nom 1/2 in. (13 mm) wide stainless steel band clamp shall be secured to the collar at its mid-height. Anchor tabs of collar secured to surface of wall by means of nom 3/16 in. (5 mm) diam by 2-1/2 in. (64 mm) long steel toggle bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers at every other anchor tab. As an alternate, in 1 and 2 hr rated walls, every anchor tab of collar may be secured to surface of wall by means of nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. A collar is used on both sides of wall.

* 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 Recognized Component Mark



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