

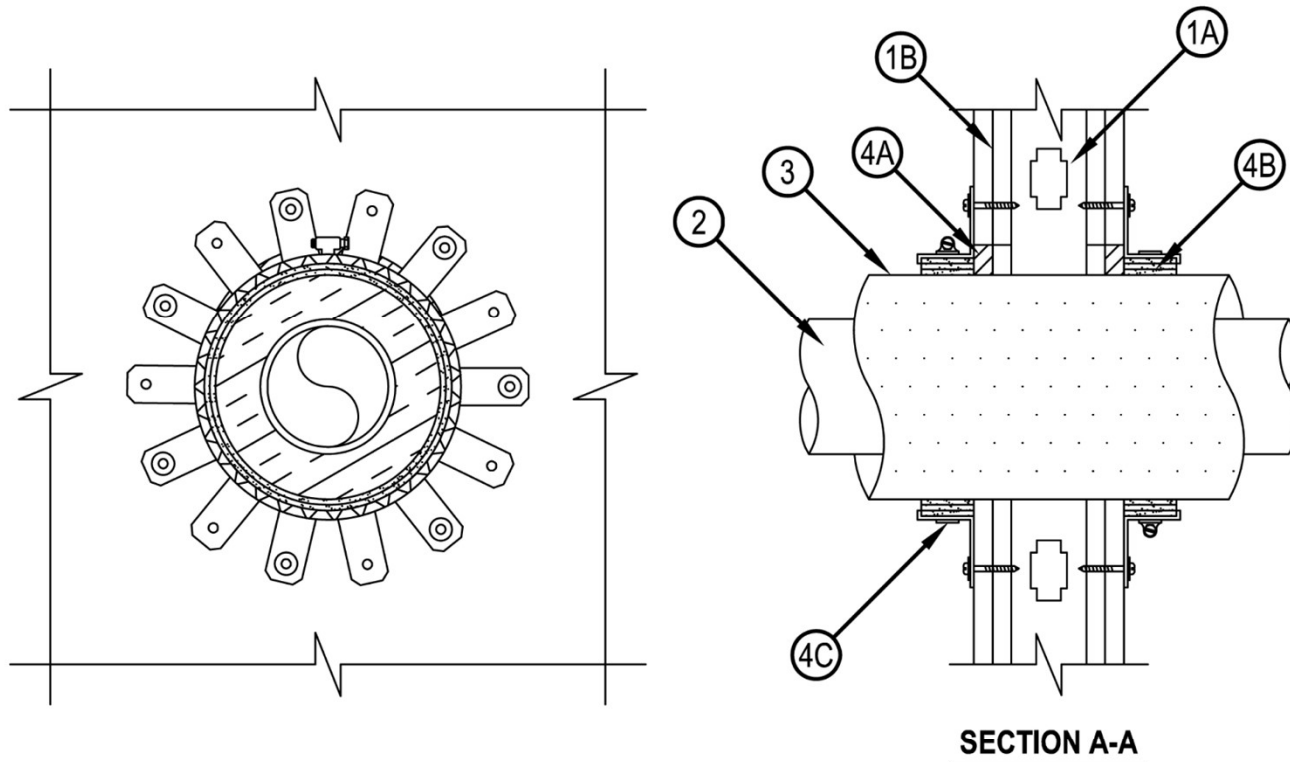


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. W-L-5225

WL 5225

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 — 0, 1, 1-1/2 or 2 Hr (See Item 3)	FT Rating — 0, 1, 1-1/2 or 2 Hr (See Item 3)
	FH Rating — 1 or 2 Hr (See Item 1)
	FTH Rating — 0, 1, 1-1/2 or 2 Hr (See Item 3)



System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

- Wall Assembly — The 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:
 - 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. OC (406 mm). Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
 - Gypsum Board* — Thickness, type and number of layers as specified in the individual Wall and Partition Design. Max diam of opening is 8-1/2 in. (178 mm).

The hourly F, FH Ratings of the firestop system are equal to the hourly assembly rating of the wall assembly in which it is installed.
- Through Penetrants — One nonmetallic pipe or conduit to be centered within the firestop system. Pipe to be rigidly supported on both sides of wall. The following types and sizes of pipes may be used:
 - Polyvinyl Chloride (PVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
 - Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.

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3. 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. A nom annular space of min 0 in. (point contact) to max 1 in. (25 mm) is required within the firestop system.

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.

3A. Tube Insulation — Plastics+ — (Optional for pipes with nom diam of 2 in. (51 mm) or less) Max 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The annular space shall be min 1/8 in. to max 1/4 in. (3 to 6 mm).

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

The hourly T, FT, FTH rating of the firestop system is equal to the hourly assembly rating of the wall assembly in which it is install unless Item 3 is used and nom pipe size is less than 4 in. (102 mm). For openings with Item 3 glass fiber insulation and pipe sizes less than 4 in. (102 mm), when hourly rating for of the wall assembly is 1 hr, the T, FT, FTH rating is 1 hr. and when the hourly rating is of the wall assembly is 2 hr, then the T, FT, FTH Rating is 1-1/2 hr. The T, FT, FTH Rating is 0 hr if Item 3A is less than 1 in. (25 mm) thick.

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

A. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.

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. (5 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Layers individually wrapped around the through-penetrant with the ends butted and held in place with tape. Butted ends in successive layers shall be offset. Each wrap strip layer is to be installed flush with both surfaces of wall. Wrap strips are installed on each surface of the wall.

Product Designation	Max Pipe Size, in. (mm)	Number of Layers
CP648-E W25/1-3/4"	2 (51)	1
CP648-E W25/1-3/4"	4 (102)	3

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP-648E Wrap Strip

C. Steel Collar — Steel collar fabricated from coils of precut min 0.016 in. (0.4 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to both surfaces of wall. In addition, collars contain retainer tabs 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, located opposite the anchor tabs. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and compressed with a min 0.028 in. (0.7 mm) thick stainless steel band at collar mid-height. The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Each tab of collar 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.

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