

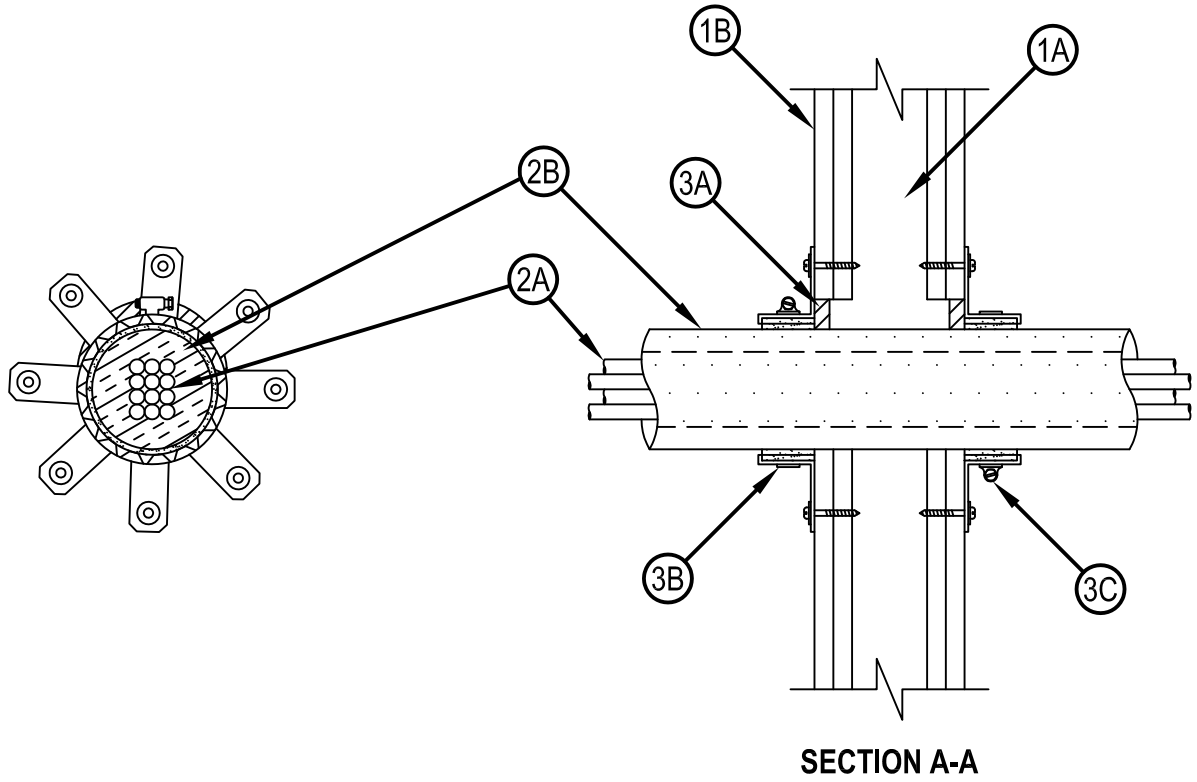


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. W-L-5224

WL 5224

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 and 1-3/4 Hr (See Item 1)	FT Rating — 0 and 1-3/4 Hr (See Item 1)
	FH Rating — 1 or 2 Hr (See Item 1)
	FTH Rating — 0 and 1-3/4 Hr (See Item 1)



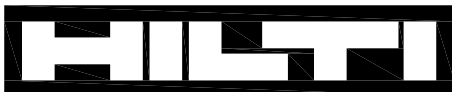
System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

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 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — The gypsum board type, thickness and number of layers shall be as specified in the individual Wall and Partition Design. Max diam of opening is 5 in. (127 mm).

The Hourly F, FH Rating for the firestop system is equal to the hourly rating of the wall assembly. The hourly T, FT, FTH Rating of the firestop system is 0 and 1-3/4 for 1 and 2 hour rated assemblies, respectively.



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2. Through Penetrant - Beverage Line — Nom 4 in. (102 mm) diam (or smaller) insulated beverage line for use in closed (process or supply) piping systems, installed concentrically or eccentrically within the opening. The annular space between penetrant and periphery of opening shall be min 0 in. to a max 1 in. (25 mm). Penetrant to be rigidly supported on both sides of wall assembly. The beverage line shall consist of the following components:
- A. Nonmetallic Tubing — A max of twelve nom 1/2 in. (13 mm) diam polyethylene (PE) tubing or crosslinked polyethylene (PEX) tubing, tightly bundled.
 - B. Tube Insulation - Plastics+ — Max 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The insulation is to be tightly secured around the bundled tubing with adhesive supplied with tube insulation. See Plastics (QMFZ2) category in the Plastics 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.
3. 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 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. A min of two layers of wrap strip shall be continuously wrapped tightly around the outer circumference of the pipe and held in place with tape. The wrap strip layers are to be installed tightly butted against both surfaces of wall. Wrap strips are installed on each surface of the wall.
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 1/2 in. (13 mm) wide by 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 retain the wrap strip. Every other tab of collar secured to surface of wall with min No. 10 by 1-1/2 in. (38 mm) long laminate steel screws with min 3/4 in. (19 mm) diam steel washers, or min 3/16 in. (5 mm) diam steel toggle bolts (or equivalent), min 1-1/2 in. (38 mm) long with min 3/4 in. (19 mm) diam steel washers.

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



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