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Underwriters Laboratories, Inc.  
to CAN/ULC-S115

# System No. W-L-2671

F Rating — 1 and 2 Hr (See Item 1)

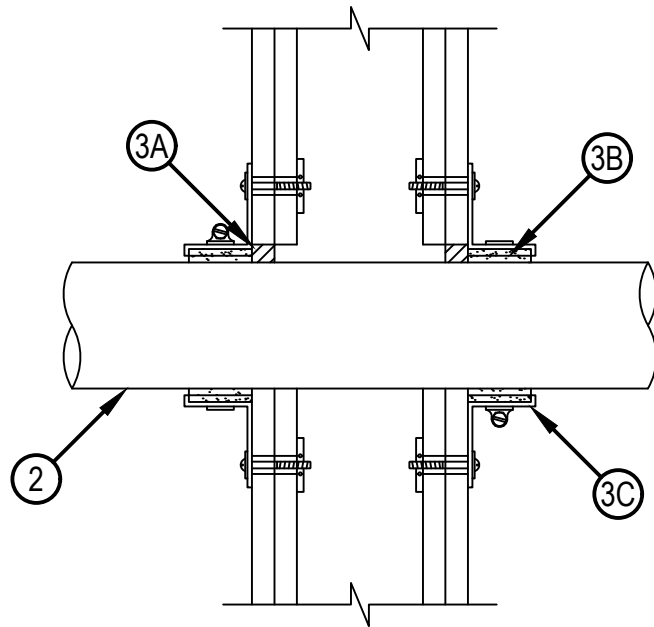
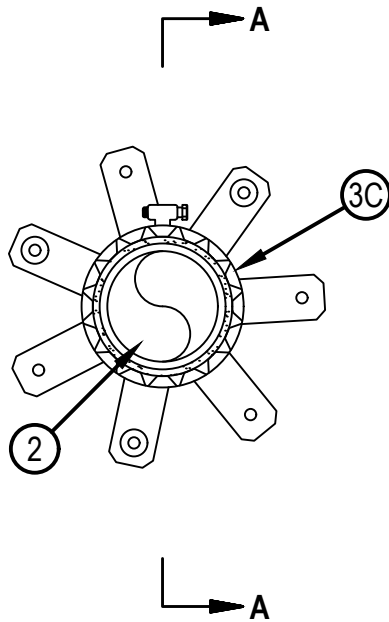
FTRating — 0 Hr

FH Rating — 0 Hr

FTH Rating — 0 Hr



WL 2671



**SECTION A-A**

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 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall or 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 51 by 102 mm (2 by 4 in.) lumber spaced 406 mm (16 in.) OC. Steel studs to be min 92 mm (3-5/8 in.) wide steel channel studs spaced max 610 mm (24 in.) OC.

B. Gypsum Board\* — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 92 mm (3-5/8 in.).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant — One nonmetallic penetrant to be installed within the firestop system. Penetrant to be rigidly supported on both sides of the wall assembly. The annular space between penetrant and periphery of opening shall be min 0 mm (point contact) to max 13 mm (1/2 in.). The following types and sizes of penetrants may be used.

A. Crosslinked Polyethylene (PEX) Tubing — Nom 76 mm (3 in.) diam (or smaller) SDR 9 Uponor AquaPEX-a tubing for use in closed (process or supply) or vented (drain, waste or vent) piping systems.



**Hilti Firestop Systems**

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

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

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

B. Fill, Void or Cavity Material\* — Wrap Strip — Nom 4.8 mm (3/16 in.) thick by 45 mm (1-3/4 in.) wide intumescent wrap strip. Two layers of wrap strip are continuously wrapped around the pipe and held in place with tape. Wrap strips are butted tightly against 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 0.43 mm (0.017 in.) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 45 mm (1- 3/4 in.) deep with 25 mm (1 in.) wide by 51 mm (2 in.) long anchors tabs on 51 mm (2 in.) 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, 13 mm (1/2 in.) wide by 5 mm (3/16 in.) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 25 mm (1 in.) at seam. A nom 13 mm (1/2 in.) 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 5 mm (3/16 in.) diam by 64 mm (2-1/2 in.) long steel toggle bolts in conjunction with 32 mm (1-1/4 in.) diam steel fender washers at every other anchor tab. As an alternate, every anchor tab of collar may be secured to surface of wall by means of nom 32 mm (1-1/4 in.) long steel laminating drywall screws in conjunction with 32 mm (1-1/4 in.) 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.



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