CLASSIFIED
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Underwriters Laboratories, Inc.
to CAN/ULC-S115

# System No. W-L-2018
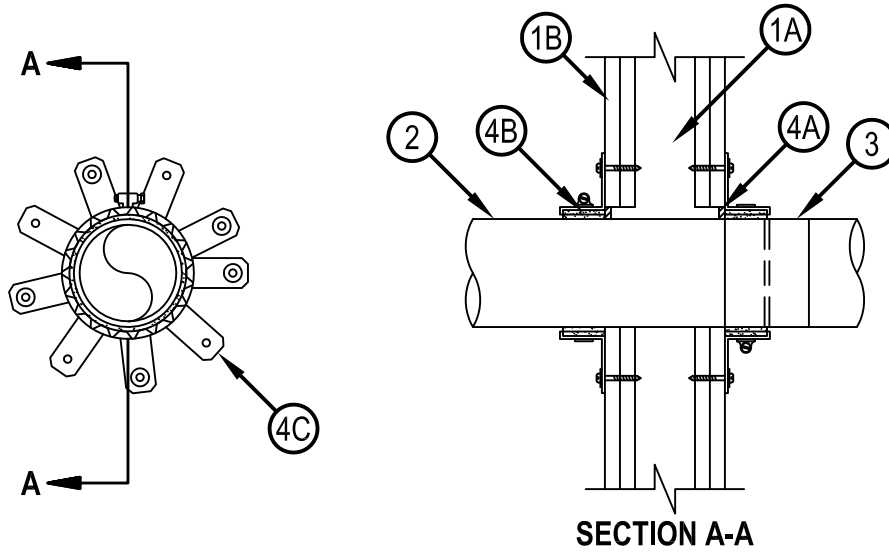### F Rating — 1 and 2 Hr (See Item 1)
### FT Rating — 3/4, 1 and 1-1/2 Hr (See Item 4)
### FH Rating — 1 and 2 Hr (See Item 1)
### FTH Rating — 3/4, 1 and 1-1/2 Hr (See Item 4)



**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 and 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual 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 steel channel studs. Steel studs to be min 64 mm (2-1/2 in.) wide and 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 specified in the individual Wall and Partion Design. Max diam of opening is 127 mm (5 in.). The hourly F and FH 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 nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular space between pipe and periphery of opening to be min 0 in. (point contact) and max 13 mm (1/2 in.). Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:

    A. Acrylonitrile Butadiene Styrene (ABS) — Pipe Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

    B. Polyvinyl Chloride (PVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 cellular core or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

    C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR11 or SDR 13.5 CPVC pipe for use in closed (process or supply) piping system.

    D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

    E. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR 11 CPVC for use in closed (process or supply) piping systems.

IPEX INC — AquaRise

| Nom Diam of Pipe, mm (in.) | F and FH Ratings, Hr | FT and FTH Ratings, HR |
|---|---|---|
| 51 (2) | 1 and 2 | 3/4 |
| 102 (4) | 1 | 1 |
| 102 (4) | 2 | 1-1/2 |

HILTI
**Hilti Firestop Systems**

3. Nonmetallic Pipe Coupling — (Optional) - Pipe coupling to be the same size and type of pipe and installed such that one end of coupling is flush with either side of wall assembly and extending outward. As an alternate, the coupling may be recessed into annular space within the opening and extend a nom 1/4 in. beyond the steel collar on either side of the wall.

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

    A. Fill, Void or Cavity Materials* — Sealant — Min 6 mm (1/4 in.) 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 - Layers of intumescent wrap strip are continuously wrapped around the pipe with ends held in place with masking or aluminum tape. Wrap strip butted tightly against both surfaces of wall. Size of wrap strip and number of layers for a given size penetrant are shown in table below.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W25/1" or CP648-E W45/1-3/4" Firestop Wrap Strip

| Product Designation | Max Pipe Size mm (in.) | Number of Layers | Nom Wrap Strip Width mm (in.) |
|---|---|---|---|
| CP648-E W25/1" | 76 (3) | 2 | 25 (1) |
| CP648-E W45/1-3/4" | 76 (3) | 1 | 44 (1-3/4) |
| CP648-E W25/1" | 102 (4) | 3 | 25 (1) |
| CP648-E W45/1-3/4" | 102 (4) | 2 | 44 (1-3/4) |

    B1. Fill, Void or Cavity Material* — Wrap Strip — (As an alternate to the wrap strip in Item 3B on nom 3" and 4"diam pipes only) - One layer of intumescent wrap strip is tightly wrapped around the pipe with ends butted and held in place with integrated tape. Wrap strip butted tightly against both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-S-3" US, CP 648-S-4" US

    C. Steel Collar — Steel collar fabricated from coils of precut min 0.4 mm (0.016 in.) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 25 mm (1 in.) (for 1 in. wide wrap strip) or 44 mm (1-/3/4 in.) ( for 1-3/4 in. wide wrap strip) deep with 25 mm (1 in.) wide by 51 mm (2 in.) long anchor tabs on 44 mm (1-3/4 in.) centers for securement to both surfaces of wall. 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. 1 in at seam. A nom 13 mm (1/2 in.) wide stainless steel hose clamp shall be secured to the collar at its mid-height. Collar secured to both surfaces 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. Collar fastened to wall at every other tab.

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