



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

System No. W-L-2031

F Ratings -- 1 Hr (See Item 1)

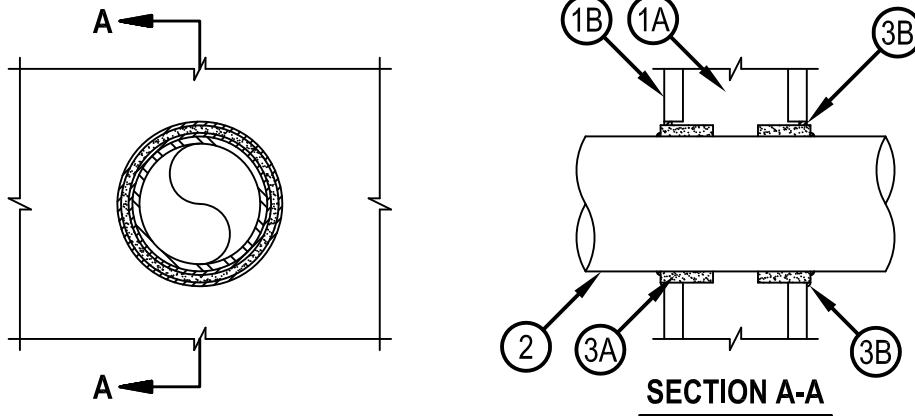
FT Rating -- 0 Hr

FH Rating -- 0 Hr

FTH Rating -- 0 Hr



WL 2031



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 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 51 by 102 mm (2 by 4 in.) lumber spaced 406 mm (16 in. OC). Steel studs to be min 89 mm (3-1/2 in.) wide and spaced max 610 mm (24 in. OC).
 - B. Gypsum Board* — One layer of nom 16 mm (5/8 in.) thick gypsum board, as specified in the individual Wall and Partition Design. See Table under Item 3B for max diam of opening.
2. Through-Penetrants — One nonmetallic pipe installed within the firestop system. See Table under Item 3B for annular space required in the firestop system. Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom 102 mm (4 in.) 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 system.
 - B. 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.
 - C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
 - D. 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
 - E. Flame Retardant Polypropylene (FRPP) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 (or heavier) FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - F. Rigid Nonmetallic Conduit+ — Nom 102mm (4 in.) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).



Hilti Firestop Systems

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

A. Fill, Void or Cavity Material* — Wrap Strip — See Table under Item 3B for min size of intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe once and slid into the annular space such that approx 3 mm (1/8 in.) of the wrap strip protrudes from wall surface. Wrap strip is held in place with integral fastening tape. Wrap strip installed on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 648S - 1.5", CP 648S - 2", CP 648S - 3", CP 648S - 4"

B. Fill, Void or Cavity Material* — Caulk — Min 6 mm (1/4 in.) thickness of fill material applied within the annulus, flush with both surfaces of wall. An additional min. 3 mm(1/8 in) bead of fill material also applied at wrap strip/gypsum wall interface and wrap strip/pipe interface.

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

| Nom Pipe Diam, mm (in.) | Wrap Strip | Wrap Strip Size, thick. x width, mm (in.) | Max Diam of Opening, mm (in.) | Annular Space, mm (in.) | |
|----------------------------|-------------------|--|----------------------------------|-------------------------|----------|
| | | | | Min | Max |
| 38 (1-1/2) | CP 648S - 1.5" US | 5 x 25 (3/16 x 1) | 60 (2-3/8) | 5 (3/16) | 8 (5/16) |
| 51 (2) | CP 648S - 2" US | 5 x 25 (3/16 x 1) | 76 (3) | 5 (3/16) | 8 (5/16) |
| 76 (3) | CP 648S - 3" US | 5 x 44 (3/16 x 1-3/4) | 102 (4) | 5 (3/16) | 8 (5/16) |
| 102 (4) | CP 648S - 4" US | 10 x 44 (3/8 x 1-3/4) | 137 (5-3/8) | 10 (3/8) | 13 (1/2) |

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

