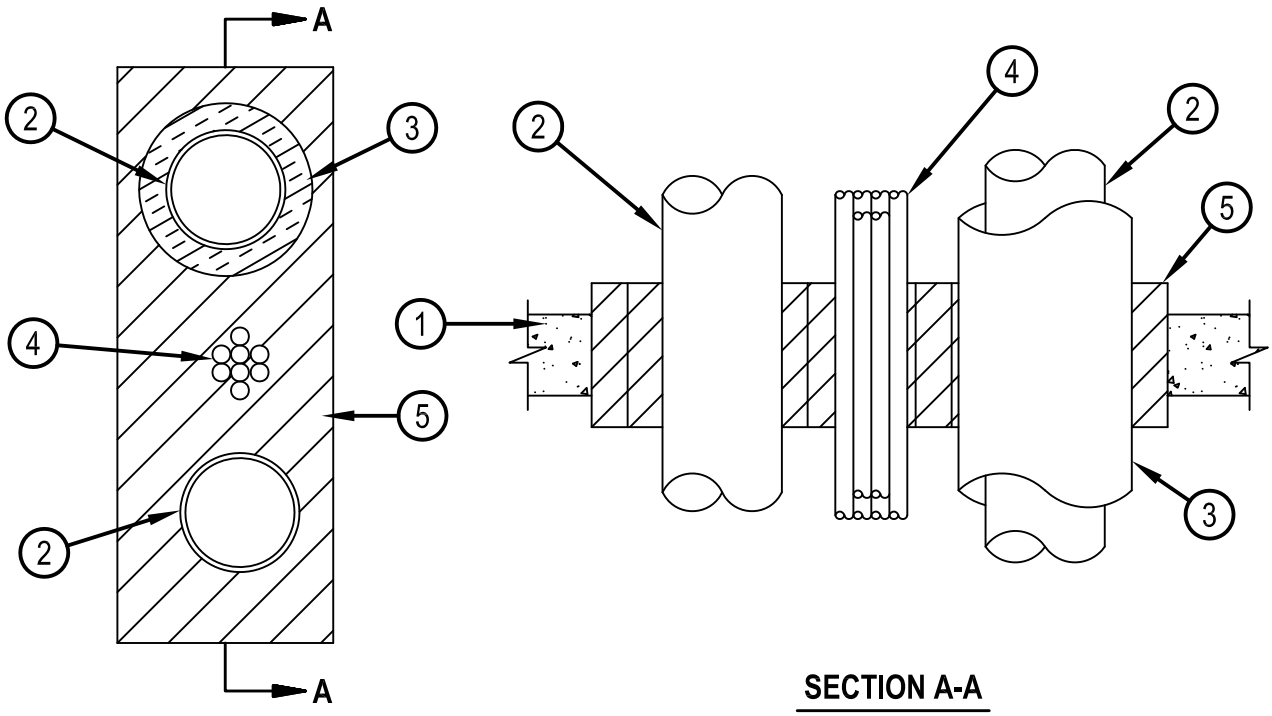
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. C-BJ-8010

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 3 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor, Roof or Wall Assembly — The fire-rated floor- or roof-ceiling assembly shall be constructed of Precast Autoclaved Aerated Concrete* in the manner specified in Design Nos. K908 or P931, respectively, and the fire rated wall assembly shall be constructed of Precast Autoclaved Aerated Concrete* in the manner specified in Design Nos. U916 or U917 in the UL Fire Resistance Directory. Max area of opening is 384 sq in. (2477 cm²) with max dimension of 32 in. (813 mm).

   AERCON FLORIDA L L C — Types AC-3.3, AC-4, AC-4.4, AC-6, AC-6.6.

   BABB INTERNATIONAL/HEBEL — HBL-32, HBL-38 and HBL-44

2. Metallic Pipes — A max of two pipes, conduits or tubing to be installed within the opening. Pipes or tubing may or may not be insulated using pipe covering (Item 3). When noninsulated pipes are used, the annular space between pipes, conduits or tubing shall be min 1 in. (25 mm) to max 4-1/2 in. (114 mm). The annular space between pipes, conduits or tubing and periphery of opening shall be min 0 in. (point contact) to max 3-15/16 in. (2956 mm). When pipe covering is used, the annular space between insulated pipes or tubing shall be min 1 in. (25 mm) to max 8 in. (102 mm). The annular space between insulated pipes or tubing and periphery of opening shall be min 2 in. (51 mm) to max 2-15/16 in. (75 mm). Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.

   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) steel conduit.

   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

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3. Pipe Covering — (Optional) - Pipes or tubing (Items 2A, B, D and E) may be insulated using pipe covering. Nom 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (3.5 pcf or 56 kg/m^3) 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. See Pipe 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. Metal Jacket — (Not Shown) Required when pipe covering (Item 3) is used and penetrant diam exceeds 4 in. (102 mm). Min 6 in. (152 mm) long jacket formed of min 0.010 in. (0.25 mm) thick steel sheet cut to wrap tightly around the pipe insulation with a min 2 in. (51 mm) lap. Jacket secured with min 1/2 in. (13 mm) wide stainless steel hose clamp located at the center of the jacket. Jacket to be installed on both surfaces of wall and recessed into the opening 1 in. (25 mm).

4. Cables — Max 4 in. (102 mm) diam tight bundle. The annular space between the cable bundle and adjacent penetrating items shall be min 1 in. (25 mm) to max 8 in. (203 mm). The annular space between the cable bundle and the periphery of the opening shall be nom 5 in. (127 mm). Cable bundle to be rigidly supported on both sides of floor or wall assembly. Any combination of the following types and sizes of cable may be used:

   A. 300 pair — No. 24 AWG telephone cable with polyvinyl chloride (PVC) insulation and PVC jacket.

   B. 7/C No. 12 AWG cable with PVC insulation and PVC jacket.

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

   A. Fill, Void or Cavity Material* — Fire blocks installed with long dimension passing through the opening from surface to surface. Blocks to be firmly packed and completely fill the entire opening. Either one or a combination of the block types specified below may be used.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block

   B. Fill, Void or Cavity Material* — Sealant — Fill material to be forced into interstices of cables, between the penetrants and the Fire Blocks, and in obvious openings between blocks and between blocks and the periphery of the opening to the max extent possible on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

   C. Wire Mesh — When annular space exceeds 4-1/2 in. (114 mm), a nom 2 sq in. (12.9 cm^2) wire fencing shall be used to keep the blocks in place. The wire fencing is fabricated from min No. 16 SWG (0.060 in.) galv steel wire. The wire is cut to fit the contour of the penetrating item with a min 3 in. (76 mm) lap beyond the periphery of the opening. Wire fencing secured to both surfaces of the wall assembly by means of 1/4 in. (6 mm) diam by 4-3/16 in. (106 mm) long hollow wall anchors and 1/4 in. (6 mm) by 1-1/2 in. (38 mm) diam fender washers spaced max 8 in. (203 mm) OC.

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