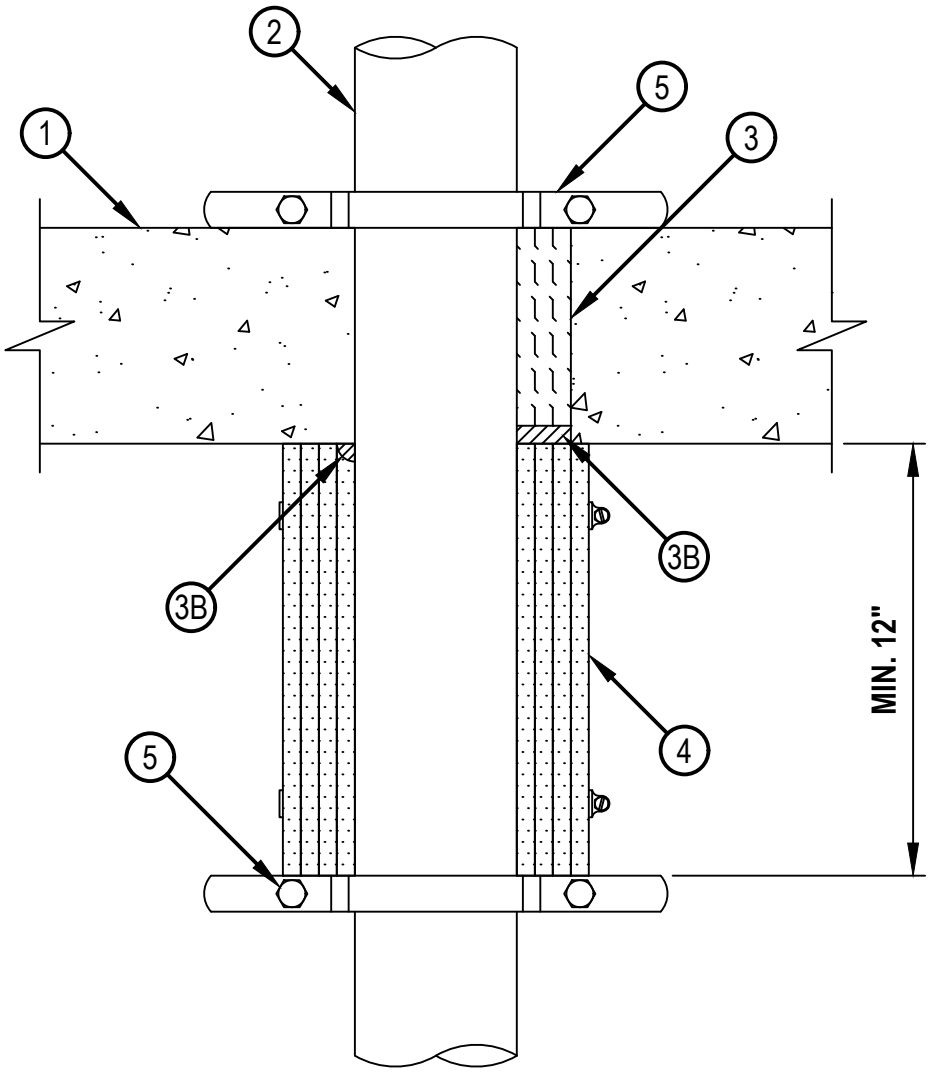
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

# System No. C-BJ-1072

| ANSI/UL1479 (ASTM E814) | CAN/ULC S115 |
|---|---|
| F Rating — 2 Hr | F Rating —2 Hr |
| T Ratings — 1-3/4 or 2 Hr (See Item 4) | FT Ratings — 1-3/4 or 2 Hr (See Item 4) |
| | FH Rating — 2 Hr |
| | FTH Ratings — 1-3/4 or 2 Hr (See Item 4) |



# System No. C-BJ-1072

1. Floor or Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete or min 6-1/2 (165 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).

   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants — One metallic pipe, conduit or tubing to be installed concentrically or eccentrically within the opening. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). Penetrant may be installed with continuous point contact. The following types of pipe, conduit or tubing may be used:

   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.

   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit.

   D. Electrical Metallic Tubing — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.

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

   A. Packing Material — Min 5-1/2 in. (140 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation compressed and firmly packed within annular space. Packing material to be recessed from bottom surface of floor or from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).

   B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with bottom surface of floor or with both surfaces of wall. An additional bead of fill material shall be applied at the point contact location between penetrant and concrete, at bottom surface of floor/sleeve and at both surfaces of wall/sleeve. The bead shall be min 1/2 in. (13 mm) diam and shall extend over the point contact location to the 1/4 in. (6 mm) annular space. For continuous point contact the bead shall be min 1/2 in. (13 mm) diam and shall cover the entire circumference of the penetrant.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant or CP 606 Sealant

4. Pipe Covering Material* — Nom 0.5 in. (12.7 mm) flexible sheet material, extending min 12 in. (305 mm) below the floor or both sides of the wall. Pipe covering shall be continuously wrapped around the penetrant for a min three or four layers as shown in table below. The intermediate layers shall have butted seams that are offset a min of 2 in. (51 mm) from preceding layer. Min 2 in. (51 mm) overlap at the seam in the final layer. Seams to be sealed with nominal 3 in. wide FSK or foil tape. Pipe covering to be secured in position using min 1/2 in. (13 mm) wide stainless steel hose clams located 2 in. (51 mm) of floor or wall and exposed edge of pipe covering.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFP-ES Endo-Shield

| Number of layers | T, FT, FTH Rating, hr |
|---|---|
| 3 | 1-3/4 |
| 4 | 2 |

5. Riser Clamp — Metallic riser clamps sized to fit the outer circumference of the penetrant and installed in accordance with the manufacturer's installation instructions. A clamp(s) installed flush with the exposed edge of pipe covering material below floor or on both sides of wall. For floor assemblies, a second riser clamp to be installed flush with the top surface of the floor assembly.

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