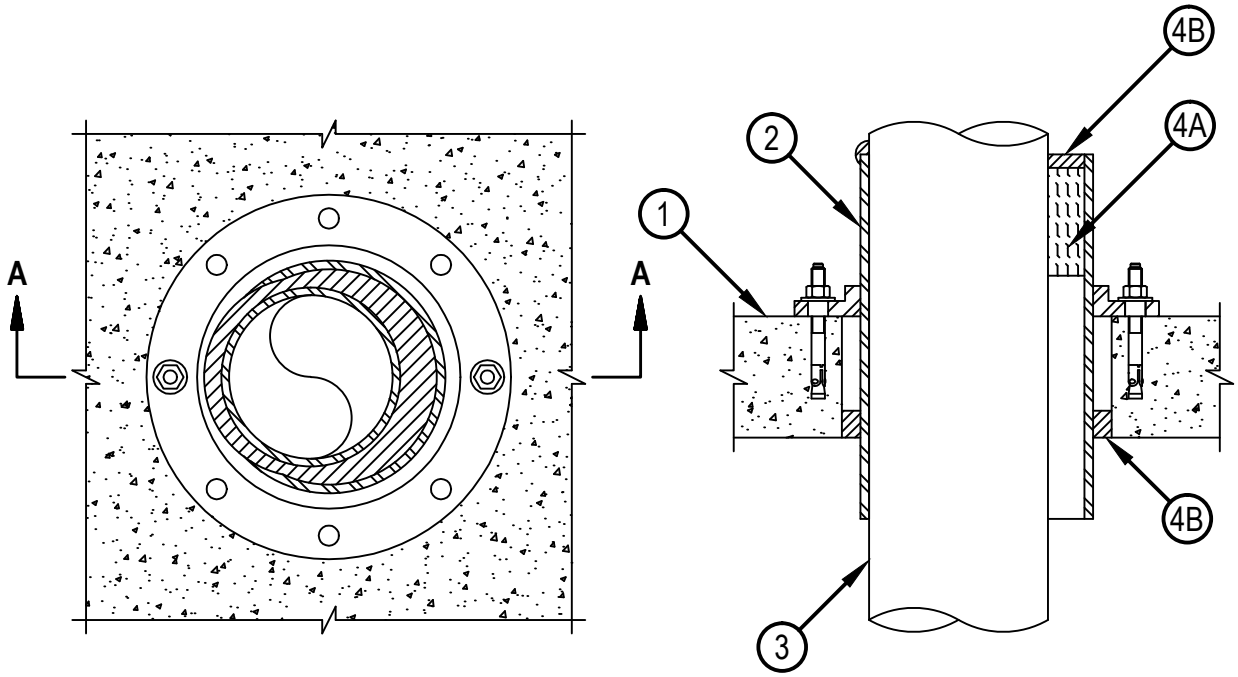
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. C-AJ-1454

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 3 Hr
L Rating At 400 F - 4 CFM/sq ft	FTH Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - 4 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 10 in. (254 mm).
   See Concrete Blocks (CAZT) category in Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — Nom 8 in. (203 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe with welded flange. Sleeve installed concentrically or eccentrically within opening to extend max 6 in. (152 mm) beyond each surface of floor or wall. Sleeve bolted to the top side of the floor or one side of wall assembly to completely cover opening. The annular space between sleeve and periphery of opening shall be min ¼ in. (6 mm) to max 1-1/8 in. (28.5 mm).

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3. Through Penetrants — One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The annular space shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). The following types and sizes of metallic pipes 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 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
   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.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4.0 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top end of sleeve for floors or from both ends of sleeve for walls to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* - Sealant — Min 1 in. (25 mm) thickness of fill material applied within the annulus between sleeve and periphery of opening, flush with the bottom side of floor or with one side of wall. Min 1/2 in. (25 mm) thickness of fill material applied within the annulus, flush with the top end of the sleeve for floors, or with both ends of the sleeve for walls. At point contact, min 1/2 in. (25 mm) thick bead of fill material shall be applied at pipe/sleeve interface at top surface of floor or both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

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