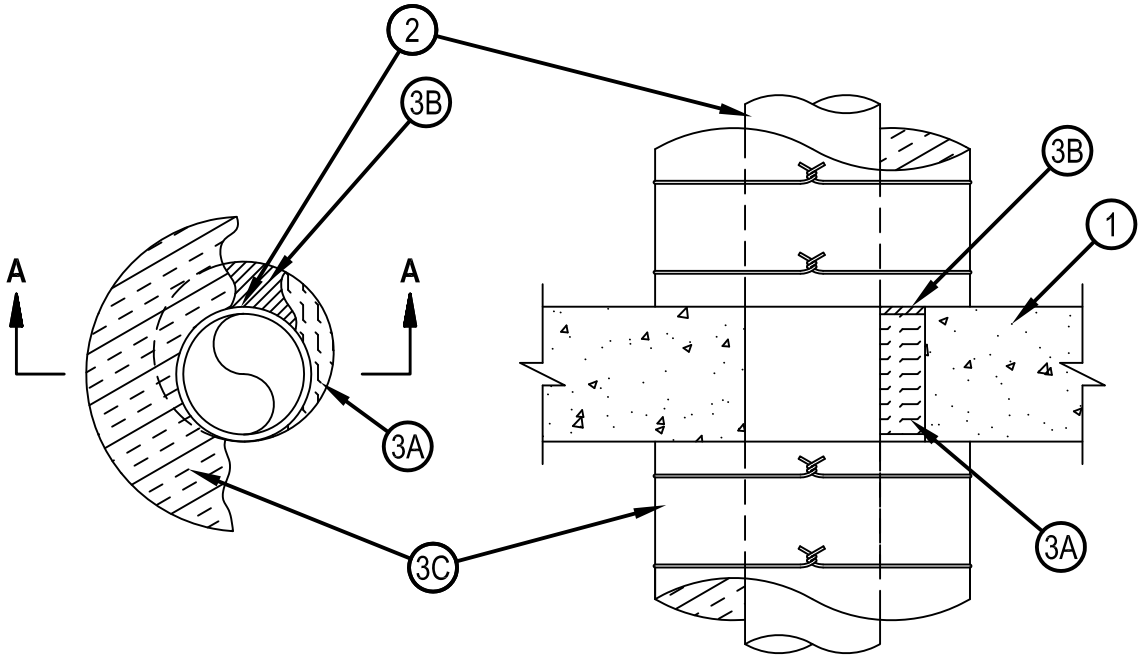
System No. C-AJ-5185

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

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 1 and 2 Hr (See Item 3C)	FT Rating — 1 and 2 Hr (See Item 3C)
	FH Rating — 3 Hr
	FTH Rating — 1 and 2 Hr (See Item 3C)



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 25-7/8 in. (657 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One metallic pipe or tubing to be installed concentrically or eccentrically within the firestop system. The annular space between the pipe or tube and the opening shall be min 0 in. (point contact to max 1-7/8 in. (48 mm)) Pipe or tubing to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.
   C . Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

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

A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material.

B. Fill Void or Cavity Materials* - Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with 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

C. Pipe Covering Materials* — Nom 3 in. (76 mm) thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube. When pipe insulation extends the entire length of the pipe or tube, pipe insulation secured with nom 16 AWG steel wire spaced max 12 in. (305 mm) OC. When pipe insulation extends only 12 in. (305 mm) beyond each side of floor or wall, pipe insulation secured with nom 16 AWG steel wire spaced 3 in. (76 mm) and 9 in. (229 mm) beyond each side of floor or wall. When the pipe insulation extends the entire length of the pipe or tube, on each side of floor or wall, the T, FT and FTH Rating is 2 Hr. When the pipe insulation extends only 12 in. (305 mm) beyond each side of floor or wall, the T, FT and FTH Rating is 1 Hr.

IIG MINWOOL L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc

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