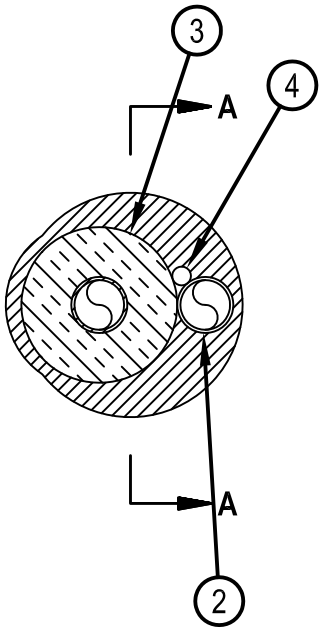
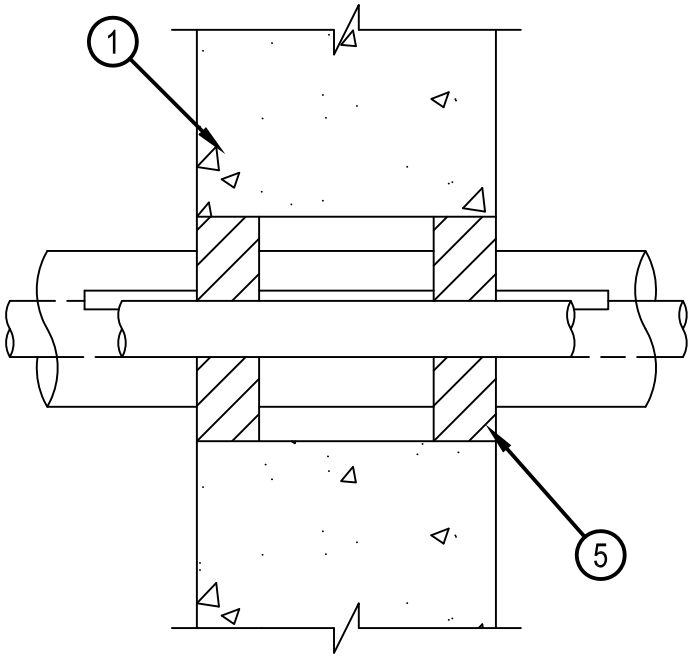
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-J-8022

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1/4 Hr	FT Rating — 2 Hr
	FH Rating — 2 Hr





SECTION A-A

1. Wall Assembly — Min 6 in. (152 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 4-1/2 in. (114 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One or more pipe or tubing to be installed concentrically or eccentrically within the opening. The space between any penetrant and the periphery of the opening shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm). Pipes or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Copper Tube — Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.
   B. Copper Pipe — Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Tube Insulation - Plastics+ — Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Tube insulation to be installed on one or more of the metallic pipes or tubes.
   See Plastics+ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Cables — Max of one 4 pair No. 18 AWG (or smaller) cable with PVC insulation and jacket materials.
5. Fill, Void or Cavity Material - Sealant* — Min 1-1/4 in. (32 mm) thickness of fill material applied within annulus between penetrants and concrete, flush with both surfaces of wall. At point contact, a ¼ in. (6 mm) bead of fill material shall be applied at the penetrant/concrete interface on both sides 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.