

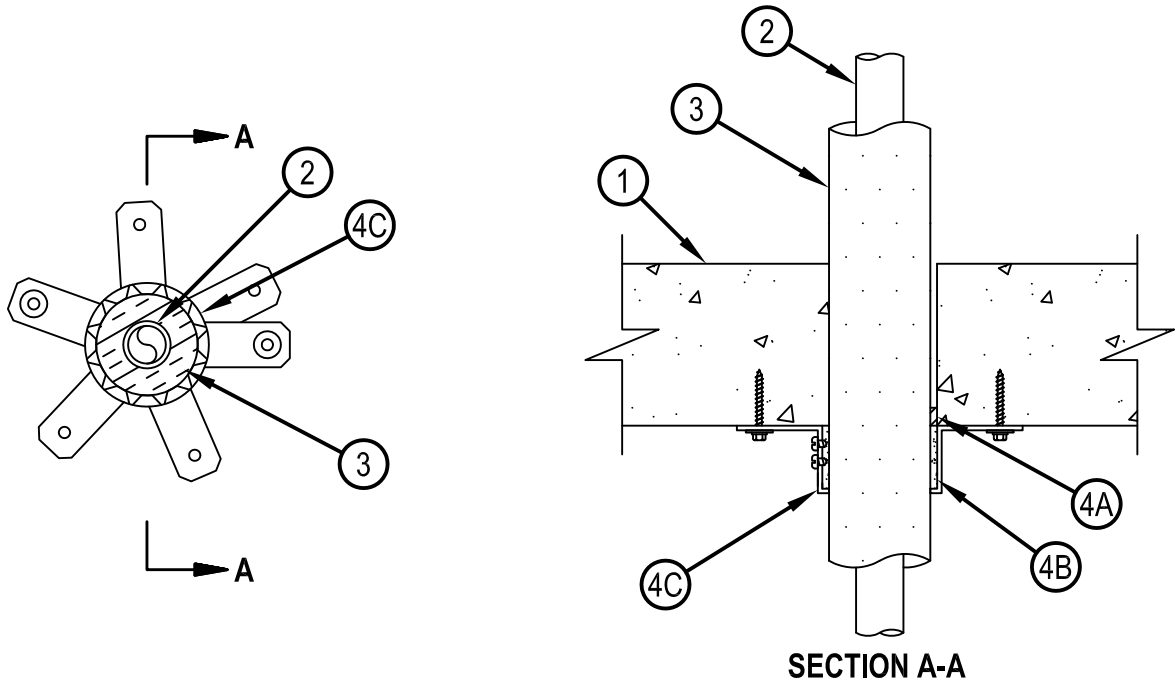


Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

## System No. C-AJ-5320

CAJ 5320

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



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/m<sup>3</sup>) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of opening is 7 in (178 mm).  
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through-Penetrant — One nonmetallic pipe or conduit installed concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
  - A. Polyvinyl Chloride (PVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
  - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
3. Pipe Insulation — Required on pipes with nom diam of 1 in. (25 mm) or smaller. Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing with skin. Annular space between pipe insulation and periphery of opening to be min 0 in. (point contact) and max 3/16 in. (4.8 mm).  
See Plastics (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.
- 3A. Pipe Covering\* — Required on pipes with nom diam greater than 1 in. (25 mm). Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 48 kg/m<sup>3</sup>) 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. A nom annular space of min 0 in. (point contact) to max 1/2 in. (13 mm) is required within the firestop system.  
See Pipe and 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.



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

A. Fill, Void or Cavity Material - Sealant\* — Min 1/2 in. (13 mm) thickness of fill material applied within annulus, flush bottom surface of floor or both surfaces of wall.

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

B. Fill, Void or Cavity Material\* — Wrap Strip — Nom 3/16 in. (4.8 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe covering one time for nom pipe diam of 1 in. (25 mm) or less and three times for nom pipe diams exceeding 1 in. (25 mm) with ends held in place with tape. When multiple wrap strips are used to achieve the required total length, the ends are to be butted end to end and held in place with tape. The bottom edge of the wrap strip shall be butted tightly against the bottom surface of the concrete floor. In walls, the wrap shall be installed on both surfaces of the wall such that the wrap strip is butted tightly against the surface on each side of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E Wrap Strip

C. Steel Collar — Steel collar fabricated from coils of precut min 0.016 in. (0.41 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to bottom of floor or both surfaces of wall. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (4.8 mm) long, pre-bent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and held together by two #10 by 3/16 in. (4.8 mm) or 1/4 in. (6 mm) long sheet metal screws installed at the center of the 1 in. (25 mm) overlap. Optional securement of the collar may be accomplished with a nom 1/2 in. (13 mm) wide stainless steel hose clamp secured to the collar at its mid-height (not shown). Every other tab of collar (min of two anchor tabs for pipe diams of 1 in. (25 mm) or less) secured to bottom of floor or both surfaces of wall with min 1/4 in. (6 mm) diam by min 1-1/4 in. (32 mm) long steel expansion bolts or min 0.145 in. (3.7 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a 1-7/16 in. (36 mm) diam by 1/16 in. (1.6 mm) thick steel washer or Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, or Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti X-DNI 27 P8 S15 powder actuated floor pin with integral nom 9/16 in. (14 mm) diam washer.

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



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