

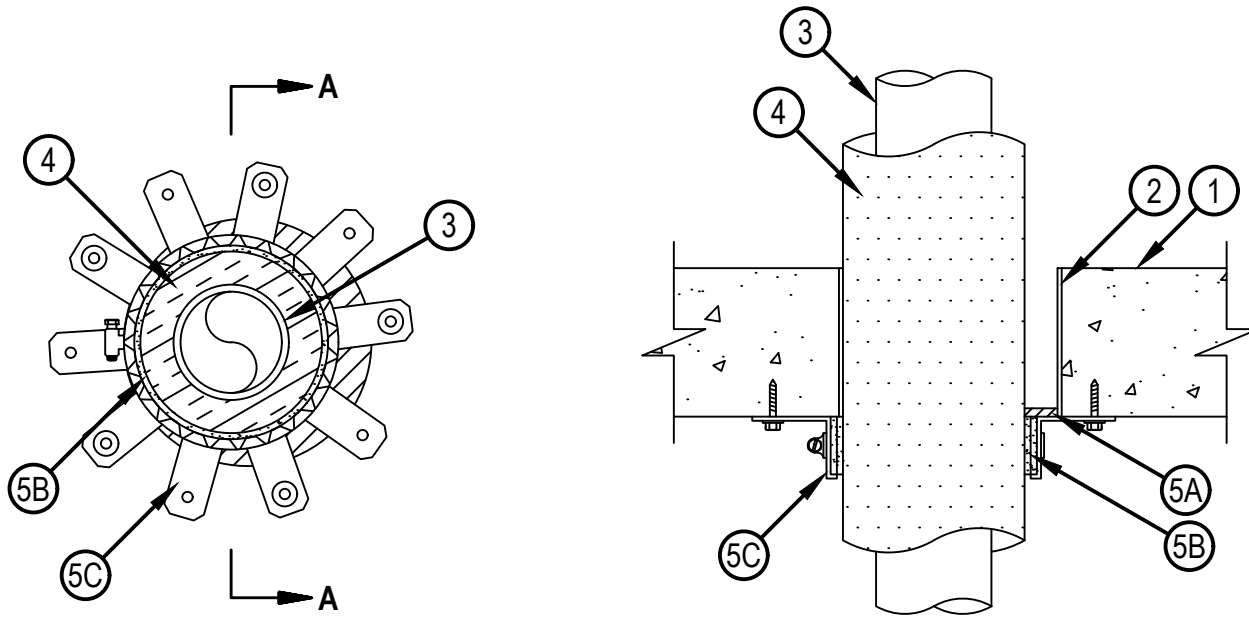


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-5385

F Rating - 2 Hr
T Rating - 2 Hr

CAJ 5385



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete floor or 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. Steel Sleeve — (optional) - Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick galv sheet steel (28 gauge or heavier) and having a min 1-1/2 in. (38 mm) lap along the longitudinal seam. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil. The ends of the steel sleeve shall be flush with each surface of the floor or wall.
3. Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular space within the firestop system is dependent upon the max diam and type of penetrant used as tabulated in Item 4A. 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. Polypropylene Random (PP-R) Pipe — Nom 3 in. (75 mm) diam (or smaller) SDR 6 Cosmoplast PP-R pipe for use in closed (process or supply) piping systems.
 - B. Polypropylene Random (PP-R) Pipe — Nom 3in. (75 mm) diam (or smaller) SDR 6 Coprax PP-R pipe for use in closed (process or supply) piping systems.

Note: Metric dimensions shown for pipes in parenthesis are actual metric OD's marked on pipe.
4. Pipe Covering — The annular space between the insulated pipe and the periphery of the opening shall be min 0 in. (point contact) to a max 1 (25 mm). One of the following pipe coverings shall be used:
 - A. Pipe Covering* — Nom 1 in. (25 mm) thick polyolefin pipe insulation. Longitudinal joints sealed with metal fasteners or factory-supplied, self-adhesive. Transverse joints secured with min 4 mil foil tape.
See Pipe 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.
 - B. Tube Insulation - Plastics+ — Nom 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.
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.



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May 03, 2019

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

A. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor of both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — 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. Two layers of intumescent wrap strip are continuously wrapped around the pipe with ends tightly butted and held in place with tape. Wrap strip installed flush with bottom surface of floor or both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W45/1-3/4" Firestop 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 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.

+ Bearing the UL Recognized Component Marking



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Page: 2 of 2