



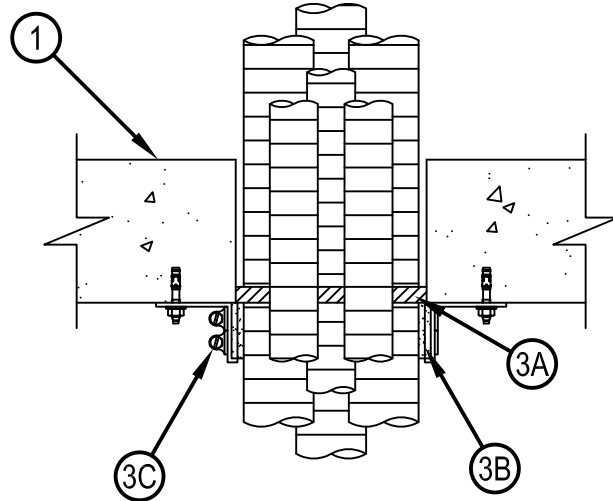
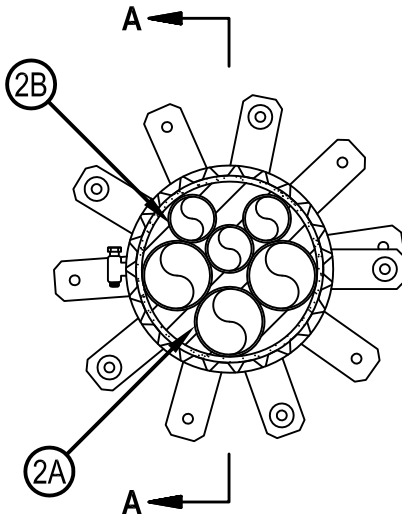
# System No. C-AJ-2402

F Rating — 3 Hr

T Rating — 2 Hr

CAJ2402

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



**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/m<sup>3</sup>) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow core Precast Concrete Units\*. Max diam of opening is 6 in. (152 mm).  
See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — A max of six nonmetallic tubes, tightly bundled, consisting of max three nom 2 in. (51 mm) diam (or smaller) and max three nom 1-1/4 in. (32 mm) diam (or smaller) nonmetallic tubes to be installed within the firestop system. Annular space between adjacent tubes to be min 0 in. (point contact) to max 1/2 in. (13 mm). Annular space between bundle and periphery of opening to be min 0 in. (point contact) and max 1/4 in. (6 mm). 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. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT) constructed of polyvinyl chloride (PVC). ENT to be installed as a complete system with all terminations in junction boxes, outlet boxes or other approved enclosures as specified in the National Electric Code.  
See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.
  - B. Electrical Nonmetallic Tubing+ — Nom 1-1/4 in. (32 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT) constructed of polyethylene (PE). ENT to be installed as a complete system with all terminations in junction boxes, outlet boxes or other approved enclosures as specified in the National Electric Code.  
See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.



**Hilti Firestop Systems**

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February 03, 2015

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### 3. 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 the annulus, flush with bottom surface of floor or both surfaces of wall.

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

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E-W w-45/1-3/4" Wrap Strip

C. Steel Collar — Steel collar fabricated from coils of precut min 0.016 in. (0.4 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 2 in. (51 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 the underside of floor or both surfaces of wall. In addition, collar contains retainer tabs 1/2 in. (13 mm) wide by 3/4 in. (19 mm) long, located opposite the anchor tabs. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and compressed with two min 0.028 in. (0.7 mm) thick stainless steel bands centered on the collar, 1 in. apart. The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to (25 mm) retain the wrap strip. Collar secured to bottom surface of the floor or both surfaces of wall by means of min 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion bolts in conjunction with steel nuts and 1-1/4 in. (32 mm) diam steel fender washers. Collar fastened to floor or wall at every other tab.

\* 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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