



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

# System No. C-AJ-2898

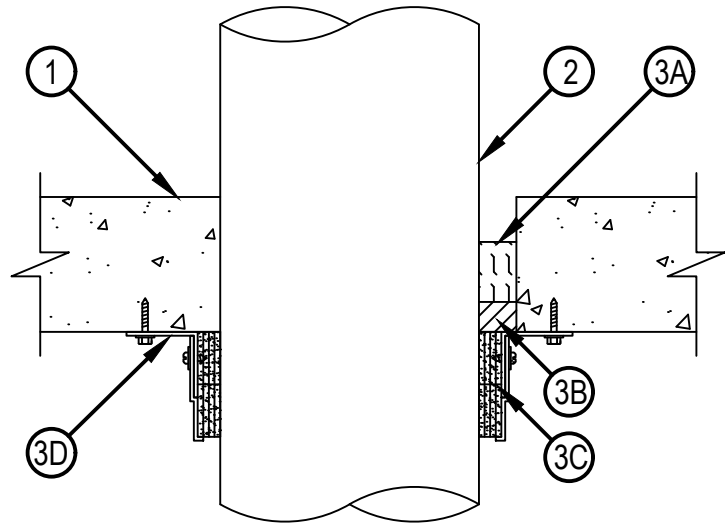
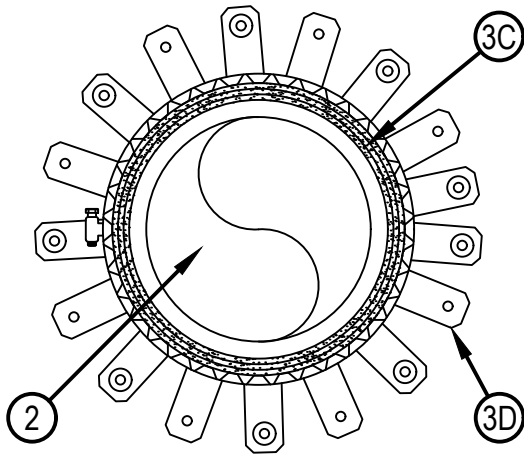
F Rating - 3 Hr

T Rating - 3 Hr

L-RATING AT AMBIENT = Less Than 1 CFM/ft<sup>2</sup>

L-RATING AT 400°F = Less Than 1 CFM/ft<sup>2</sup>

CAJ 2898



SECTION A-A



Hilti Firestop Systems

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May 11, 2020

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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 diameter of opening is 10 in. (254 mm). See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Annular space between pipe and periphery of opening to be min 0 in. (point contact) to max 1-1/4 in. (32 mm). For L Rating, a minimum annular space of 1/4 in. (6 mm) is required. The following types and sizes of nonmetallic pipes may be used:
  - A. Polybutylene (PB) Pipe — Nom 8 in. (203 mm) diam (or smaller) SDR11 PB pipe for use in closed (process or supply) piping systems.
3. Firestop System — The firestop system shall consist of the following:
  - A. Packing or Forming Materials — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation tightly packed into the opening as a permanent form. Packing material to be recessed from the bottom surface of floor or both surfaces of wall to accommodate the required thickness of sealant (Item 3B).
  - B. Fill, Void or Cavity Material\* — Min 1 in. (25 mm) thickness of sealant applied within the annulus, flush with bottom surface of floor or with both surfaces of wall.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
  - C. Fill, Void or Cavity Material\* — Wrap Strip - Two stacks of four layers of intumescent wrap strip are continuously wrapped around the pipe with ends held in place with masking or aluminum tape. When multiple wrap strips are used to achieve the required total length, the ends are butted end to end and held in place with tape. Butted ends in successive layers shall be offset. Wrap strip butted tightly against bottom surface of floor or both surfaces of wall.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP48-E W45/1-3/4" Firestop Wrap Strip
  - D. Steel Collars — Steel collar fabricated from coils of precut min 0.016 in. (1.6 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. (52 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to the underside 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, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 1 in (25 mm) at seam. Collar secured with two sheet metal screws though the overlapping portion of the collar. The length of the sheet metal screws shall not exceed the thickness of the wrap strip. A second collar to be wrapped around the second stack of wrap strip with a min 1 in. (25 mm) overlap at the seam. Second collar secured with four sheet metal screws though the overlapping portion of the collar. Anchor tabs of second collar left unbent and every other tab is secured to the first retaining collar with one no. 8 sheet metal screw per tab. Optional securement of the anchor tabs of second collar may be accomplished with one nom 1/2 in. (13mm) wide stainless steel hose clamp secured at the mid height of collar. Every other anchor tab of first collar secured to bottom surface of floor or both surfaces of wall with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion bolts in conjunction with steel nuts and 1/4 in. (6 mm) by 1-1/4 in. (32 mm) diam washers, 1/4 in.(6 mm) diam by 1-1/2 in. (44 mm) long steel concrete screws or 0.145 in. (3.8 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners and min 1-1/4 (32 mm) diam by 1/16 in. (1.6 mm) thick steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in.(32 mm) long KWIK-CON II+ concrete screw anchor, 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. diam washer may be used. Collars to be used at the bottom surface of floor or both surfaces of wall.

\* 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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