



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

# System No. W-J-2399

F Ratings — 2 Hr

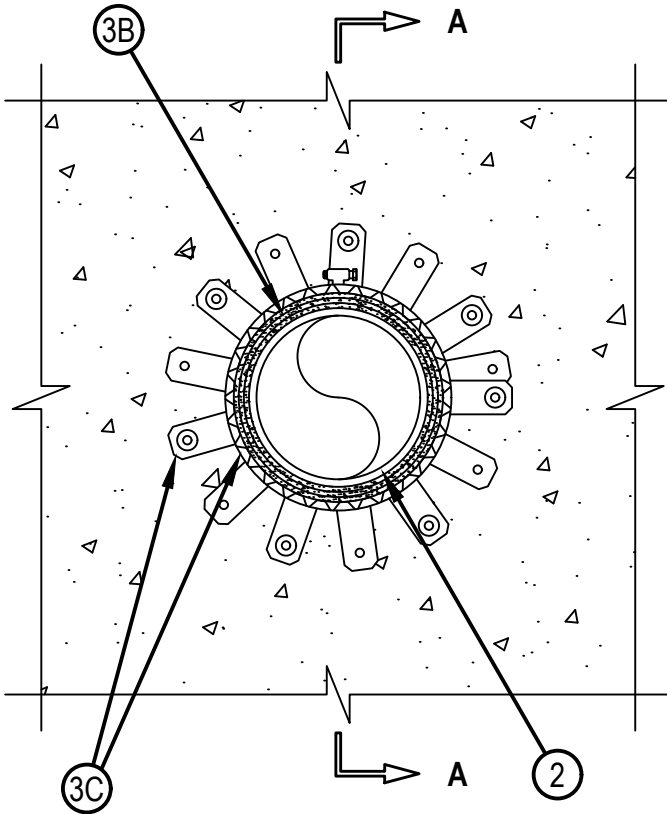
T Rating — 2 Hr

L Rating At Ambient — 3 CFM/sq ft

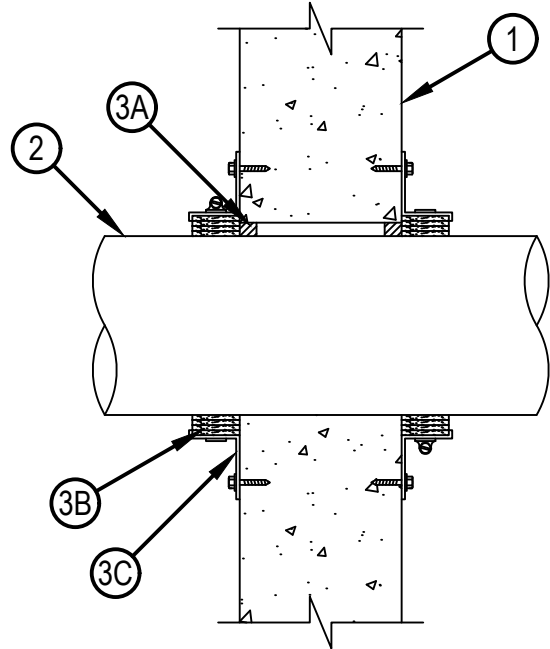
L Rating At 400 F — Less Than 1 CFM/sq ft

WJ 2399

**FRONT VIEW**



**SECTION A-A**



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March 9, 2023

1. Wall Assembly — Min 6 in. (152 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. (229 mm).  
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.  
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
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) and max 3/8 in. (10 mm). Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:
  - A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 80 or 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 80 or 40 CPVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
3. Firestop System — The firestop system shall consist of the following:
  - A. Fill, Void or Cavity Materials\* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with 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. (5 mm) thick by 1-3/4 in. (45 mm) wide intumescent wrap strip continuously wrapped over the outer circumference of the pipe, covering the pipe and subsequent wrap strips four times, with ends butted and held in place with (masking or aluminum) tape. Wrap strip butted tightly against both surfaces of wall.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E-W45/1-3/4 Firestop Wrap Strip
  - C. Steel Collar — Collar fabricated from coils of precut min 0.017 in. (0.43 mm) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1-3/4 in. (45 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchors tabs on 2 in. (51 mm) centers for securement to wall assembly. The anchor tabs shall be bent 90 degrees outward for securement to the wall assembly. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 1 in. (25 mm) at seam. A nom 1/2 in. (13 mm) wide stainless steel band clamp shall be secured to the collar at its mid-height, as an alternate, collar secured together at overlap location with two No. 8 sheet metal screws. Anchor tabs of collar secured to both surfaces of wall with a min of seven 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion type masonry fasteners or steel expansion bolts along with min 1-1/4 in. (32 mm) diam steel washers symmetrically spaced. A collar is used on both sides 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.