



Classified by
Underwriters Laboratories, Inc.
CAN/ULC-S115

System No. C-AJ-2678

F Rating — 2 Hr

FT Ratings — 1-3/4 and 2 Hr (See Item 2)

FH Rating — 2 Hr

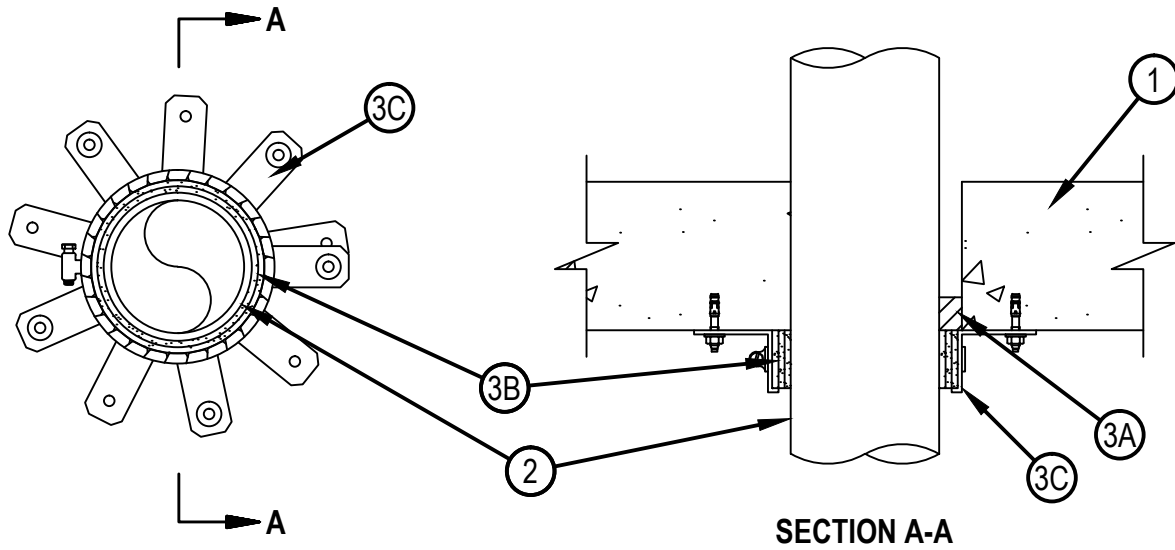
FTH Ratings — 1-3/4 and 2 Hr (See Item 2)

L Rating At Ambient — Less Than 1 CFM/sq ft

L Rating At 400 F — 4 CFM/sq ft



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System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor or Wall Assembly — Min 114 mm (4-1/2 in.) thick reinforced lightweight or normal weight 1600-2400 kg/m³ (100-150 pcf) concrete. Floor may also be constructed of any min 152 mm (6 in.) thick UL Classified hollow core Precast Concrete Units*. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 127 mm (5 in.)
See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories 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 mm (point contact) to max 13 mm (1/2 in.) The following types and sizes of nonmetallic pipes may be used:
 - A. XFR 15/50 Polyvinyl Chloride (PVC) Pipe —
Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
 - B. Polyvinyl Chloride-HRS (PVC-HRS-2550) Pipe —
Nom 102 mm (4 in.) diam (or smaller) Schedule 40 PVC-HRS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

The FT and FTH Rating of the firestop system is 2 hr when penetrant Item 2A is used and 1-3/4 hr when penetrant Item 2B is used.
3. Firestop System — The firestop system shall consist of the following:
 - A. Fill, Void or Cavity Material* — Sealant — Min 25 mm (1 in.) thickness of fill material applied within the annulus, flush with bottom surface of floor or both sides 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 - Layers of intumescent wrap strip are continuously wrapped around the pipe with ends held in place with tape. Wrap strip butted tightly against bottom surface of floor or both surfaces of wall. Number of layers of wrap strip for a given size penetrant are shown in table below.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W45/1-3/4" Wrap Strip



Hilti Firestop Systems

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Max Pipe Size mm (in.)	Number of Layers	Nom. Wrap Strip Width (in.)
76 (3)	2	44 (1-3/4)
102 (4)	3	44 (1-3/4)

C. Steel Collar —

Steel collar fabricated from coils of precut min 0.41 mm (0.016 in.) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be 44 mm (1-3/4 in.) deep with 25 mm (1 in.) wide by 51 mm (2 in.) long anchor tabs on 44 mm (1-3/4 in.) centers for securement to the underside of floor or both surfaces of wall. The opposite side incorporates retainer tabs, 13 mm (1/2 in.) wide by 4.8 mm (3/16 in.) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 25 mm (1 in.) at seam. A nom 13 mm (1/2 in.) wide stainless steel hose clamp shall be secured to the collar at its mid-height. Every other anchor tab of collar secured to concrete slab with 6 mm (1/4 in.) diam by 44 mm (1-3/4 in.) long steel expansion type masonry fasteners, 38 mm (1-1/2 in.) long concrete screw anchors or 3.7 mm (0.145 in.) diam by 32 mm (1-1/4 in.) long powder actuated fasteners utilizing a 36.5 mm (1-7/16 in.) diam by 1.6 mm (1/16 in.) thick steel washer. In floor assemblies, one collar to be used at the bottom of the concrete floor. In wall assemblies, a collar is used on both surfaces.

* 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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