

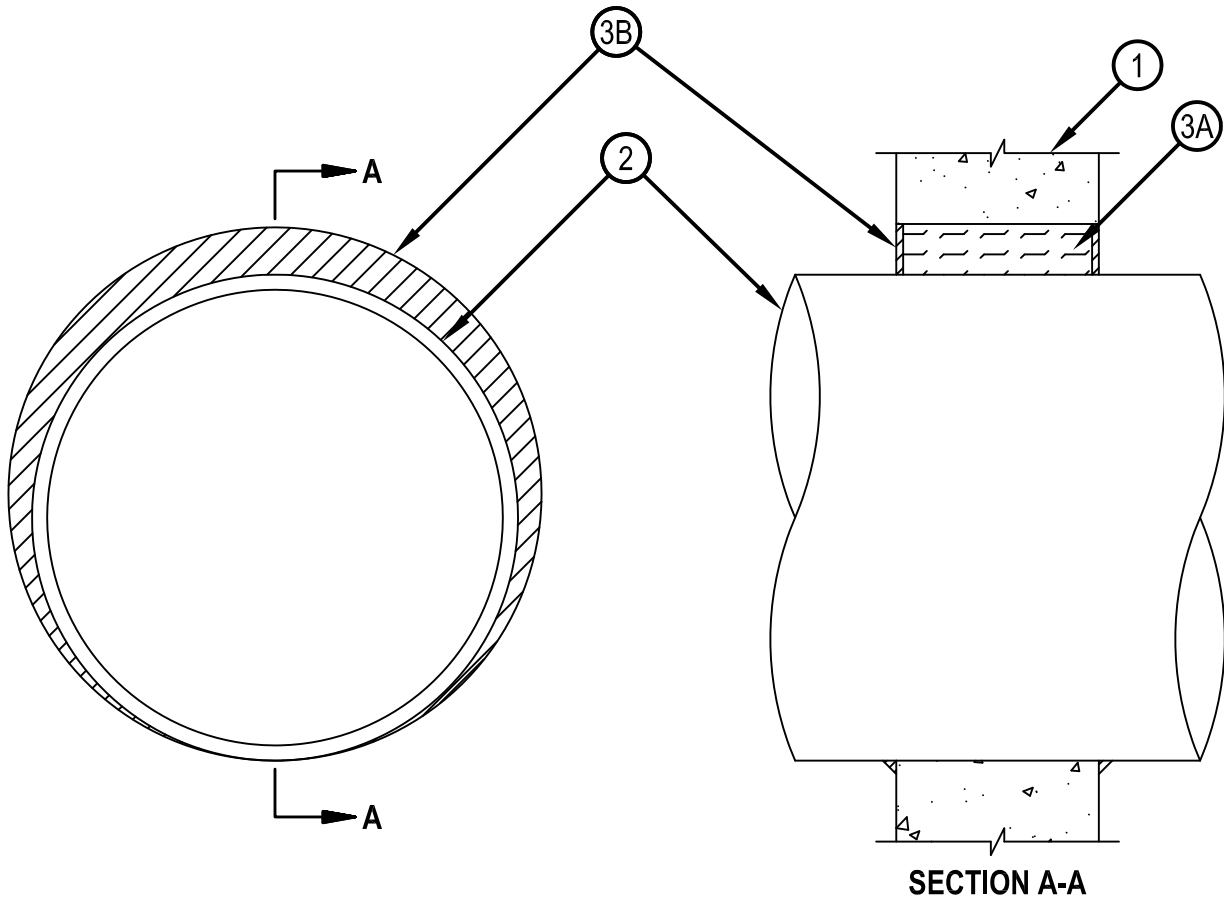


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-J-1021

WJ 1021

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 and 1/4 Hr (See Item 2)	FT Rating — 0 and 1/4 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 2 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 and 1/4 Hr (See Item 2)
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft



1. Wall Assembly — Min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Diam of circular through opening to be min 3/8 in. (5 mm) to max 2-3/4 in. (70 mm) larger than diam of through penetrants (Item 2).

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through-Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

- A. Steel Pipe — 17-1/4 in. (438 mm) diam (or smaller) by 0.125 (or heavier) steel pipe. The annular space shall be min 0 to max 2-3/4 in. (70 mm). The T, FT, FTH Rating is 1/4 hr when steel pipe is used.
- B. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing. The annular space shall be min 0 to max 3 in. (76 mm). The T, FT, FTH rating is 0 hr when copper tubing is used.



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

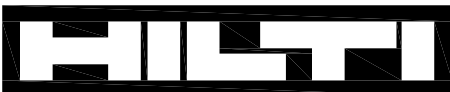
A. Packing Material — Min 4-1/2 in. (114 mm) thickness of flexible urethane sheet or mineral wool insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe and wall, a min 1/2 in. (13 mm) diam bead of sealant shall be applied to the wall/pipe interface on both surfaces of wall assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

C. Steel Wire Mesh (Optional) (Not Shown) — No. 8 steel wire mesh having a min 1 in. (25 mm) lap along the longitudinal seam. Length of steel wire mesh to be 5 in. (127 mm), centered and formed to fit periphery of through opening.

* 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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