

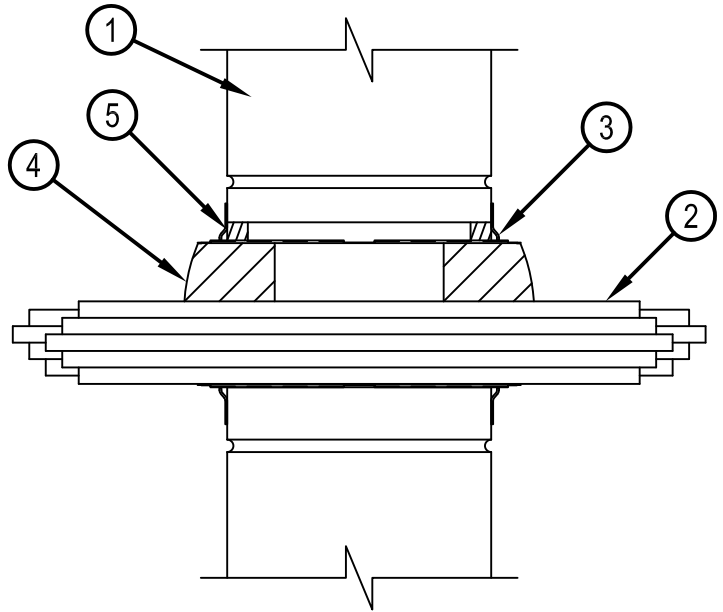
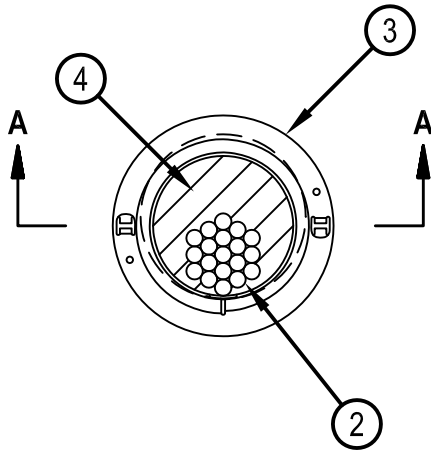


Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-J-3199

WJ 3199

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Ratings - 3/4 and 1 Hr (See Items 2 and 3)	FT Ratings - 3/4 and 1 Hr (See Items 2 and 3)
L Rating At Ambient - See Item 5	FH Rating - 2 Hr
L Rating At 400F - See Item 5	FTH Ratings - 3/4 and 1 Hr (See Items 2 and 3)
	L Rating At Ambient - See Item 5
	L Rating At 400F - See Item 5



SECTION A-A



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 18, 2015

System No. W-J-3199

1. Wall Assembly — Min 6 in. (152 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*. Opening to be max 5 in. (127 mm) diam for 4" device and max 3 in. (76 mm) diam for 2" device.

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

2. Cables — Within the loading area for each firestop device, the aggregate cross-sectional area of cables to be min 0 to max 60 percent fill. Cables to be tightly bundled within the device and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:

- A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.
- B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.
- C. Max 4/0 AWG Type RHH ground cable.
- D. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.
- E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.
- F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).
- G. Max 3/C No 12 AWG MC Cable.

For opening with cables, the T, FT and FTH Ratings are 1 hr except that when Item 2C is used, the T, FT and FTH Ratings are 3/4 hr.

3. Firestop Device* — Firestop device consists of a corrugated steel tube with flanges and gasketing material (not shown). Device slid into wall such that ends project an equal distance from the approximate centerline of the wall assembly. Device flanges are spun clockwise onto device threads, over gasketing material butting tightly to both sides of wall. As an alternate to gasket material, sealant (Item 5) may be used. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact) to max 1 in. (25 mm). For blank openings (no cables), the T, FT and FTH Ratings for the firestop system are 1 hr.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SL SK 2" and 4" Firestop Sleeve

4. Fill, Void or Cavity Material* - Plug — Nom 2 or 4 in. (51 or 102 mm) plug sized for the firestop device (Item 3) friction fit within the sleeve flush with the end of the sleeve on both sides of the wall assembly. Plug cut to fit around the cable bundle and installed tightly within the sleeve.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-PL Firestop Plug

5. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus between firestop device and wall, flush with both surfaces of wall.

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

The following L Ratings are covered. Cable bundle shall be centered within the device.

	CFM (PER DEVICE)		CFM / SQ FT	
	AMBIENT	400°F	AMBIENT	400°F
Blank Opening (no cables) with sealant (Item 5)	1.3	1.1	9.6	8.1
Blank Opening (no cables) with gasket (See Item 3)	1.3	1.4	9.6	10.3
Max 33% aggregate cable fill with sealant (Item 5)	1.9	<1	13.6	6.7
Max 33% aggregate cable fill with gasket (See Item 3)	1.9	1.2	13.6	8.9

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

