

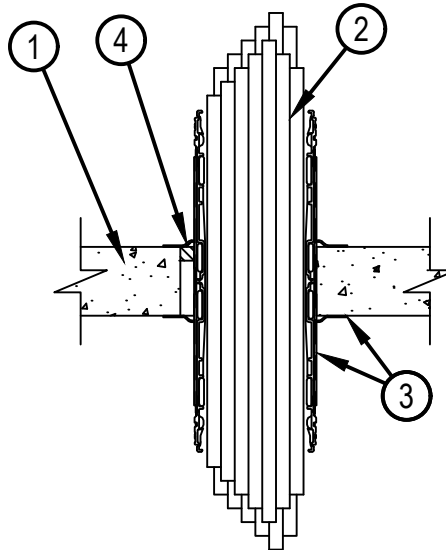


Classified by  
Underwriters Laboratories, Inc.  
to UL 1479 and CAN/ULC-S115

## System No. C-AJ-3281

CAJ 3281

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Ratings — 0 and 3/4 Hr (See Item 2)	FT Ratings — 0 and 3/4 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM (See Item 2)	FH Rating — 2 Hr
L Rating At 400 F — Less Than 1 CFM (See Item 2)	FTH Ratings — 0 and 3/4 Hr (See Item 2)
	L Rating At Ambient — Less Than 1 CFM (See Item 2)
	L Rating At 400 F — Less Than 1 CFM (See Item 2)



1. Floor or Wall Assembly — Min 2-1/2 in. (64 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\*. Floor may also be constructed of any min 6 in. thick UL Classified hollow-core Precast Concrete Units\*. Opening in floor or wall to be max 3 in. (76 mm) diam for 2" device and max 5 in. (127 mm) diam for 4" device. See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. Cables — Within the loading area for each firestop device, the cables may represent a 0 to 100 percent visual fill. Cables to be tightly bundled within the device and rigidly supported on both sides of floor or 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 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 20/C No. 22 AWG shielded printer cable with PVC jacket.
  - H. Through-Penetrating Product\* - Two copper conductors No. 18 AWG (or smaller) Power or Non Power Limited Fire Alarm Cable with or without a jacket under a metal armor.  
AFC CABLE SYSTEMS INC
  - I. Max. 1/4 in. (6 mm) diameter S-Video Cable consisting of two max 24 AWG 75 ohm coax or twisted pair cable with PE insulation and PVC jacket.
  - J. Through Penetrating Product\* — Any Cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category.  
See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
  - K. Max 3/C No 12 AWG MC Cable.

The T, FT and FTH Ratings for the firestop system are 1/2 hr except that when cable types 2J or 2K are used, the T, FT and FTH Ratings are 0 hr.



**Hilti Firestop Systems**

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See Table below for L Ratings.

Max Cable Fill	Cable Type	L Rating, CFM/Sq Ft		L Rating, CFM	
		Ambient	400°F	Ambient	400°F
0%	—	1	2	Less than 1	Less than 1
100%	Any cables (Item 2) in any combination	7	7	Less than 1	Less than 1

3. Firestop Device\* — Firestop device consists of a corrugated steel tube with an inner plastic housing, intumescent material rings and tightly twisted inner fabric smoke seal, flanges and gasket material (not shown). Firestop device to be installed in accordance with the accompanying installation instructions. Device slid into floor or wall such that ends project an equal distance from the approximate centerline of the assembly. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact). Device provided with flanges that are spun clockwise onto device threads, and gasket material butting tightly to both sides of floor or wall. As an alternate to gasket material, sealant (Item 4) may be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 653 and CP 653 BA 2" Speed Sleeve, CP 653 and CP 653 BA 4" Speed Sleeve

4. Fill, Void or Cavity Material\* — Sealant — As an alternate to gasket material (see Item 3), min 1/2 in. (13 mm) thickness of fill material applied within the annulus between firestop device and periphery of opening, flush with top surface of floor or both surfaces of wall, and an additional 1/4 in. (6 mm) bead applied at the device/floor or wall interface on top side of floor or both sides of wall assembly prior to installing flanges.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE, FS-ONE MAX Intumescent Sealant or CP 606 Sealant

\* 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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