



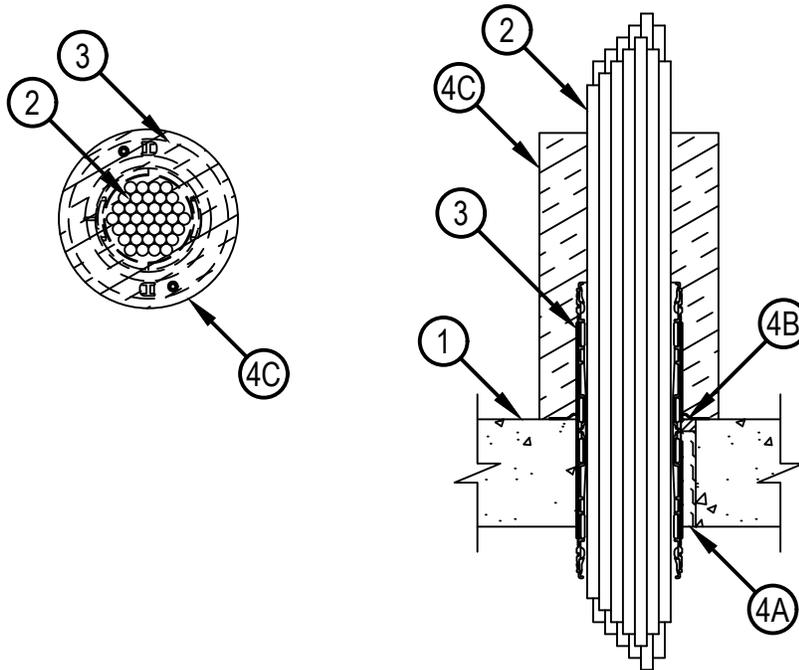
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. C-AJ-3298

CAJ 3298

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 2 Hr	FT Rating — 2 Hr
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 Rating — 2 Hr
	L Rating At Ambient — Less Than 1 CFM (See Item 2)
	L Rating At 400 F — Less Than 1 CFM (See Item 2)

SECTION A-A



1. Floor or Wall Assembly — Reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Min 4-1/2 in. (114 mm) thick floors and min 5 in. (127mm) thick walls. 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 in. (51 mm) device and max 5 in. (127 mm) diam for 4 in. (102 mm) 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.



Hilti Firestop Systems

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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 2 max 24 AWG 75 ohm coax or twisted pair cable with PE insulation and PVC jacket.

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, 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. As an option, in floors, steel sleeve of device may be installed flush with bottom of floor. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Device provided with flange(s) that are spun clockwise onto device threads, over gasket material butting tightly to top side of floor or both sides of floor or wall. In floors, when one device flange is used, device flange to be secured to floor with min two 1-1/4 in. (32 mm) long masonry screws or anchors. As an alternate to gasketing material, sealant (Item 4B) 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, CP 653 4" BA ILS and CFS-SL GA L ILS Speed Sleeve

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

A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into annular space between firestop device and opening as a permanent form. Packing material to be installed flush with bottom of floor and recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Sealant — As an alternate to gasketing material (see Item 3), min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. For L Ratings when sealant is used, an additional 1/4 in. (6 mm) bead of fill material shall be applied at the device/floor or device/wall interface on top side of floor or both sides of wall assembly prior to installing flange(s).

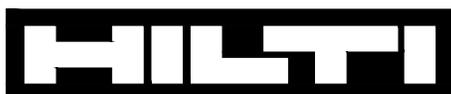
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Sealant or FS-ONE MAX Intumescent Sealant.

C. Cable Wrap Materials* — Nom 1-1/2 in. or 2 in. (38 or 51 mm) thick blanket, faced on one side or two with a foil facing. The cables shall be wrapped with one layer of cable wrap. Cable wrap is to extend a minimum of 12 in. (305 mm) from top surface of floor or both sides of wall assembly. The ends are to be tightly butted together and taped. The exposed edges of the faced blankets are taped with 4 in. (102 mm) wide pressure-sensitive aluminum foil tape.

THERMAL CERAMICS INC — FireMaster FastWrap XL

UNIFRAX I L L C — FyreWrap Duct Insulation or FyreWrap 1.5 Duct Insulation

* 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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