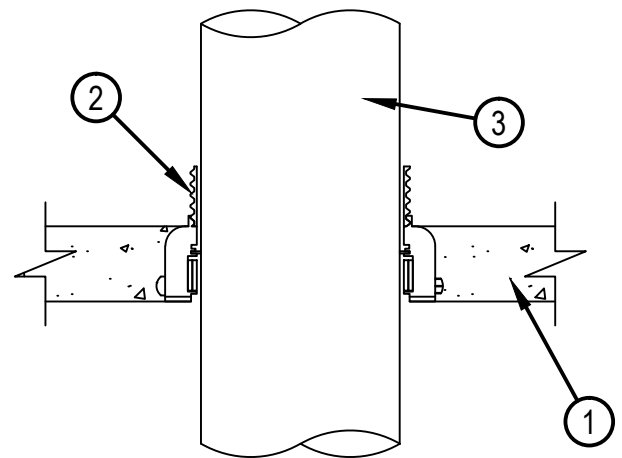
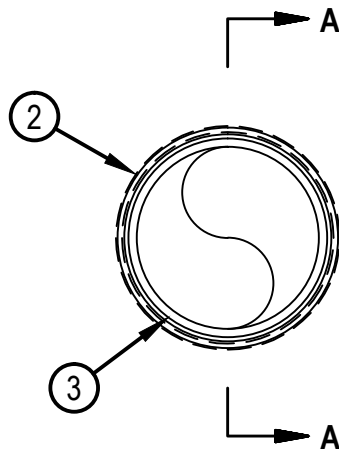


System No. F-A-1016



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

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)	FH Rating — 2 Hr
L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)	FTH Rating — 0 Hr
W Rating — Class 1 (See Items 4B and 4B1)	L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)
	L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)



SECTION A-A

1. Floor Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - 1A. Floor Assembly — (Optional, Not Shown)—The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:
 - A. Concrete — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - B. Steel Floor and Form Units* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions. The devices may extend a max of 2 in. (51 mm) above the top surface of the concrete.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680N-75/2.5", CP 680N-110/4", CP 680N-160/6", CP 682-75/2.5", CP 682-110/4", CP 680-M 2", CP 680-M 3", CP 680-M 4", CP 680-M 6", CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6", CP 680-PX 2", CP 680-PX 3"
3. Through Penetrants — One metallic pipe, conduit or tubing to be installed within the firestop device. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe, conduit or tubing may be used:
 - A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
 - C. Conduit — Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
 - D. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
 - E. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - F. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.



Hilti Firestop Systems

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System No. F-A-1016

The firestop device and metallic penetrant shall be sized as follows:

Nom Pipe Diam +, ++	Firestop Device
1-1/2 to 2-1/2 in.(38 to 64 mm) - Other than copper pipe or tubing	CP680N-75/2.5"or CP682-75/2.5"
1-1/2 to 2 in.(38 to 51 mm) - Other than copper pipe or tubing	CP 680-M 2", CP 680-P 2, CP 680-PX 2"
2 to 2-1/2 in. (51 to 64 mm) - Copper pipe or tubing	CP680N-75/2.5"or CP682-75/2.5"
	CP 680-M 2", CP 680-P 2", CP 680-PX 2"
2-1/2 to 3 in. (64 to 76 mm)	CP 680-M 3", CP 680-P 3", CP 680-PX 3"
4 in. (102 mm)	CP680N-110/4"or CP682-110/4"
	CP 680-M 4", CP 680-P 4"
6 in. (152 mm)	CP680N-160/6"
	CP 680-M 6", CP 680-P 6"

+ When metallic pipes of diameters smaller than those shown above are installed within the device, CP618 Firestop Putty Stick or mineral wool insulation shall be installed within the device.

++ L Rating applies only to CP 680-M and -P(X) devices and only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.). L Rating does not apply to CP 680N and CP682 devices.

4. Fill, Void or Cavity Material* - Putty (Not Shown) — Min 1 in. (25 mm) thickness of fill material applied within annulus flush with top surface of device.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 618 Firestop Putty Stick

4A. Packing Material (Not Shown) — As an alternate to Item 4, min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool insulation firmly packed to the fullest extent possible within annulus flush with top surface of device.

4B. Firestop Device* - Top Seal Plug — (Optional. Not Shown) - Top seal plug for use with CP 680-M 2" and CP 680-P 2" devices and nom pipe, conduit or tubing sizes of 1/2 in. (13 mm) to 2 in. (51 mm) diam. Plug is friction fit into top of firestop device (Item 2) in accordance with the manufacturer's instructions. When top seal plug is used, no putty (Item 4) or packing material (Item 4A) is required. W Rating applies only to nom 1, 1-1/4, 1-1/2 and 2 in. (25, 32, 38 and 51 mm) diam copper pipe/tube in conjunction with 2" CPS Top Seal and CP 680-M 2" or CP 680-P(X) 2" devices.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CPS Top Seal Plug



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FA 1016

4B1. Firestop Device* - Water Barrier Module — (Optional, Not Shown) - Used as an alternate to the top seal plug (Item 4B) and in combination with the CP 680-M and CP 680-P(X) devices to achieve a W Rating. Module is threaded onto top of device. See Table below for sizes of device/module and penetrants covered. When water barrier module is used, a W Rating applies to the water barrier module, device and penetrant sizes specified in Table below. For W Rating with Water Barrier Module, pipe shall be installed from bottom of device.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

Penetrant Type (See Item 3 above)	Nom Penetrant Diam	Size of Device/Module
A, B, C, D	2"	2"
	2-1/2"	3"
	3"	3"
	4"	4"
	6"	6"
E, F	2"	2"
	3"	3"
	4"	4"
	6"	6"

* 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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