



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

## System No. F-A-2054

FA 2054

**F Rating — 3 Hr**

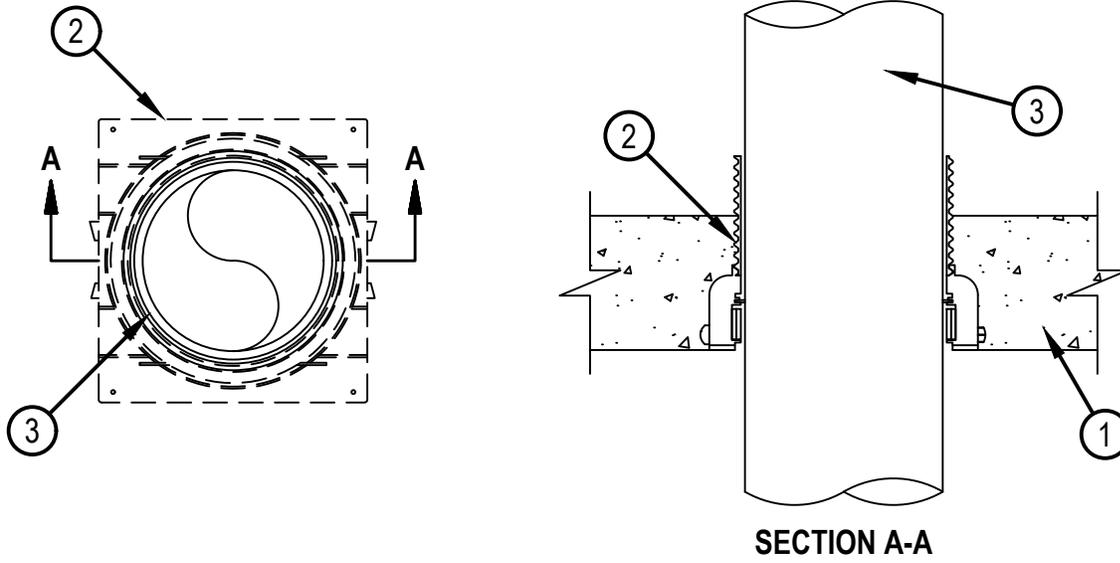
**T Ratings — 0 and 3 Hr (See Item 3)**

**L Rating (Without Movement) At Ambient — Less Than 1 CFM/sq ft (See Item 3 and Table 1)**

**L Rating (Without Movement) At 400 F — Less Than 1 CFM/sq ft (See item 3 and Table 1)**

**W Rating (Without Movement) — Class 1 (See Items 3, 4 and 4A)**

**M RATING (Movement) — See Table 2**



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) 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 4-1/2 in (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) 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 assembly in accordance with accompanying installation instructions. The devices may extend a max 2 in. (51 mm) above the top surface of the concrete.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-160/6"N, 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 nonmetallic pipe or conduit to be installed within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. For W Rating with Water Barrier Module, pipe shall be installed from bottom of device. The following types and sizes of nonmetallic pipes or conduits may be used:
  - A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Pipe-Nom 6 in. (152 mm) diam (or smaller) SDR11 or SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
  - C. Rigid Nonmetallic Conduit+ — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).
  - D. Cross Linked Polyethylene (PEX) Tubing — Nom 4 in. (102 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems.



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The firestop devices and nonmetallic penetrants shall be sized as follows in Table 1 below:

Nom Pipe Diameter	Firestop Device	T Rating-Hr
1/2 in. to 2 in. (19 mm to 51 mm)	CP 680-75/2.5"N	3
	CP 680-P 2"	
	CP 680-PX 2"	
3 in. (76 mm)	CP 680-110/4"N	0 and 3+
	CP 680-P 3"	
	CP 680-PX 3"	
	CP 680-P 4"	
4 in. (102 mm)	CP 680-110/4"N	3
	CP 680-P 4"	
6 in. (152 mm)	CP 680-160/6"N	0
	CP 680-P 6"	

+3 hr T Rating applies when CP 680-P(X) 3" and CP 680-P 4" devices are used. 3 hr T Rating also applied when CP 680-110/4"N device is used provided that min 4 in. (102 mm) thickness of nom 4 pcf (64 kg.m3) mineral wool batt insulation tightly packed within annulus between pipe and wall of CP 680-110/4"N device.

++ L Rating applies only to CP 680-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 devices.

+++ T Rating is 0 hr for firestop systems with M Rating (Movement)

4. Firestop Device — Top seal plug for use with CP 680-P(X) 2" device installed in accordance with the manufacturer's instructions. The Top Seal Plug is optional for nom 1-1/2 in. (38 mm) pipes and conduits. Top Seal Plugs are required for all pipes and conduits less than nom 1-1/2 in. (38 mm). W Rating applies only to the IPS Top Seal Plug and nom 2 in. diam penetrants and CPS Top Seal Plug for nom 1/2 to 2 in. (13 to 51 mm) diam penetrants.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — IPS and CPS Top Seal Plugs

4A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Alternate to Top Seal Plug (Item 4). Applies to nom 2", 3", 4" and 6" water barrier modules used in combination with the CP 680-P(X) 2", CP 680-P(X) 3", CP 680-P 4" and CP 680-P 6" devices, respectively, and supplied by device manufacturer. Module is threaded onto top of device. W Rating applies only when water barrier module is used and nom diam of penetrant equals size of device.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

THE M RATING FOR THE FIRESTOP SYSTEM IS DEPENDENT ON THE VARIABLES AS NOTED IN TABLE 2 BELOW.

Movement Direction	Penetrant Item	NOMINAL PENETRANT DIAMETER	Device Size	Movement	Sealant Depth	L Rating	W Rating
Y	3A	2 in.	2 in.	100%	N/A	N/A	N/A
Z	3A	2 in.	2 in.	3.21 in.	N/A	N/A	N/A

\*\* PERCENTAGE MOVEMENT BASED ON THE MINIMUM DISTANCE BETWEEN PENETRANT OD AND DEVICE ID.

\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.



**Hilti Firestop Systems**

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