



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2166

F Rating — 4 Hr

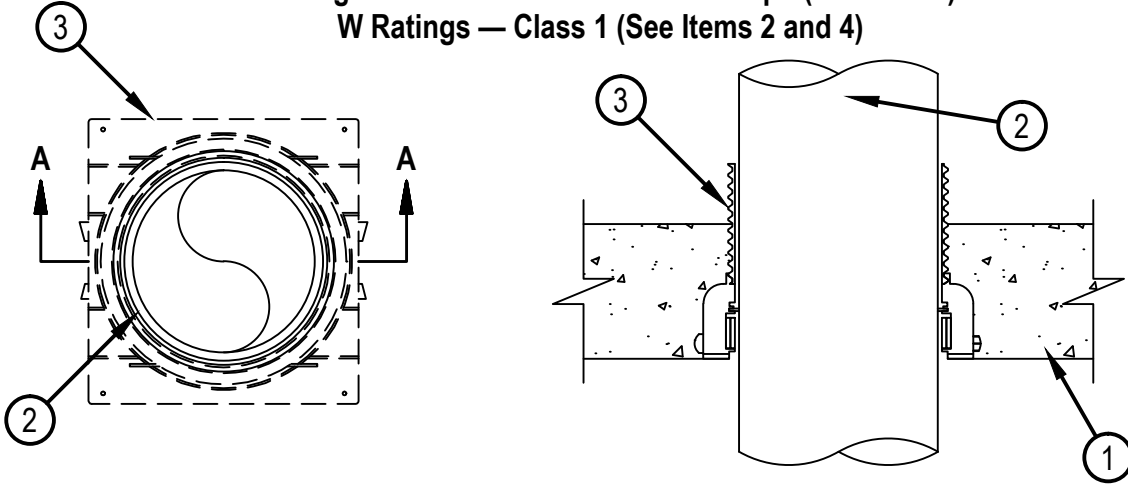
T Rating — 1/4 Hr

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 2)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 2)

W Ratings — Class 1 (See Items 2 and 4)

FA 2166



SECTION A-A

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight 100-150 pcf (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 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight 100-150 pcf (1600-2400 kg/m³) concrete topping as measured over the top plane of the steel floor units.
 - 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. Through Penetrants — One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of floor assembly. For W Rating with Water Barrier Module (Item 4), pipe shall be installed from bottom of device. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
 - C. Rigid Nonmetallic Conduit (RNC)+ — Nom 6 in. (152 mm) diam Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).

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

Nom Pipe Diameter	Firestop Device
2 in. (51 mm)	CP 680-75/2.5"N CP 680-P 2" CP 680-PX 2"
3 in. (76 mm)	CP 680-P 3" CP 680-PX 3"
3 to 4 in. (76 to 102 mm)	CP 680-110/4"N CP 680-P 4"
6 in. (152 mm)	CP 680-160/6"N CP 680-P 6"



Hilti Firestop Systems

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++ 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.

3. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete assembly in accordance with accompanying installation instructions with a max 2 in. (51 mm) projection 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"
4. Firestop Device* - Water Barrier Module — (Optional, Not Shown) - 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
- 4A. Firestop Device* — (Optional. Not shown) - Alternate to Water Barrier Module (Item 4). Top Seal Plug for use with CP 680-P(X) 2" device installed in accordance with the manufacturer's instructions. W Rating applies only to the IPS Top Seal Plug with nom 2 in. (51 mm) diam penetrants and CPS Top Seal Plug for nom 2 in. (51 mm) diam penetrants.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CPS and IPS Top Seal Plugs
- * 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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