



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

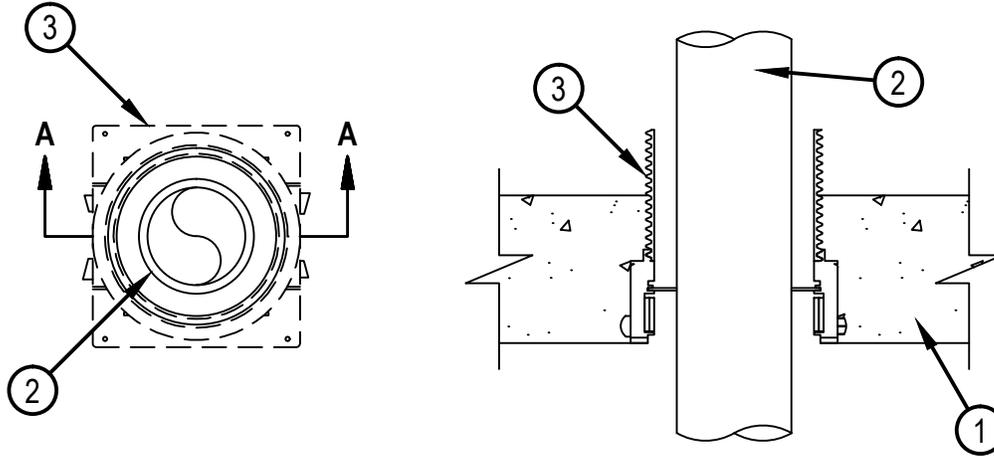
# System No. F-A-2145

F Ratings — 2 and 3 Hr (See Item 1)

T Rating — 0 Hr

W Rating — Class 1 (See Items 4 and 4A)

FA 2145



**SECTION A-A**

1. Floor Assembly — Min 2-1/2 in. (64 mm) or 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 2-1/2 in. (64 mm) or 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.  
F Rating is 2 Hr for min 2-1/2 in. (64 mm) thick concrete. F Rating is 3 Hr for min 4-1/2 in. (114 mm) thick concrete.
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 4" device may extend a max 2 in. (51 mm) above the top surface of the concrete. The max extension above the slab for the 2 and 2.5" devices are not restricted.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-PX 2", CP 680-PX 3"
3. Through Penetrants — One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes may be used:
  - A. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) FLOWGUARD GOLD® SDR11 CPVC pipe for use in closed (process or supply) piping systems.
  - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 3 in. (76 mm) diam (or smaller) BLAZEMASTER® SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
 The firestop devices and nonmetallic pipes shall be sized as follows:

Nom Pipe Diameter	Firestop Device
1/2 in. to 2 in. (19 mm to 51 mm)	CP 680-75/2.5"N
1-1/2 to 2 in. (19 mm to 38 mm)	CP 680-P 2" CP 680-PX 2"
3 in. (76 mm)	CP 680-110/4"N, CP 680-P 3", CP 680-PX 3", CP 680-P 4"



**Hilti Firestop Systems**

Reproduced by HILTI, Inc. Courtesy of  
Underwriters Laboratories, Inc.  
June 29, 2015

## System No. F-A-2145

FA 2145

4. Firestop Device\* — (Not shown) - 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 to CPS Top Seal Plugs with nom 1/2 to 2 in. (13 to 51 mm) diam penetrants.

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

- 4A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Alternate to Top Seal Plug (Item 4). Applies to nom 2", 3" and 4" water barrier modules used in combination with the CP 680-P(X) 2", CP 680-P(X) 3" and CP 680-P 4" 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 penetrant diam equals device size.

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

5. Packing Material — (Not Shown) When pipe sizes are less than those shown in the table above and CP-680-P(X) 2", CP-680-P(X) 3" and CP-680-P 4" are used, a 4 in. (102 mm) thickness of 4 pcf (64 kg/m<sup>3</sup>) mineral wool insulation shall be firmly packed to the fullest extent possible within annulus flush with top surface of device.

\* 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**

Reproduced by HILTI, Inc. Courtesy of  
Underwriters Laboratories, Inc.  
June 29, 2015