



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

# System No. F-A-2313

F Rating - 2 Hr

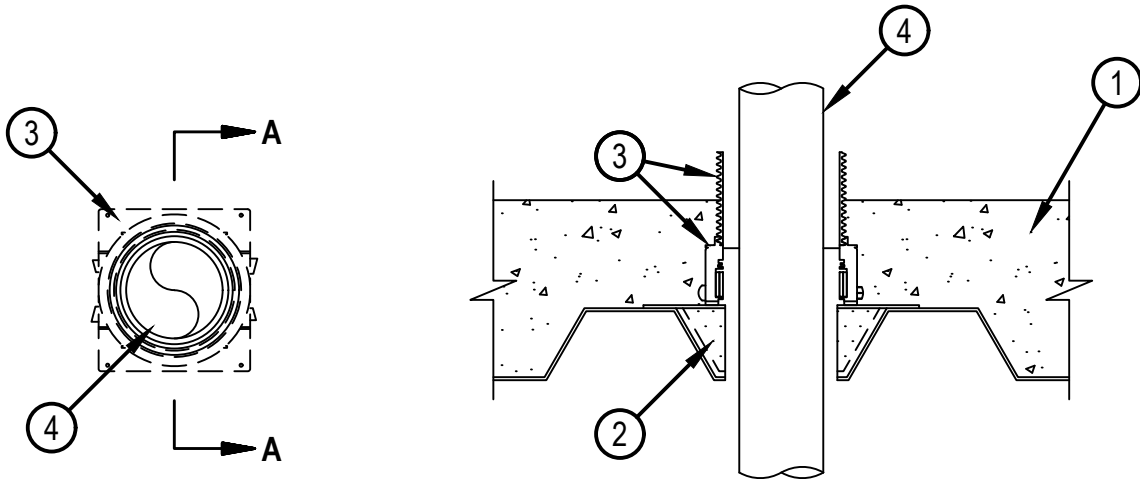
T Rating - 0 Hr and 2 Hr (See Items 4 and 5)

L Rating At Ambient — Less Than 1 CFM/ft<sup>2</sup> (See Item 4)

L Rating At 400°F — Less Than 1 CFM/ ft<sup>2</sup> (See Item 4)

W Rating — Class 1 (See Items 3 and 4)

FA 2313



## SECTION A-A

1. Floor Assembly — 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\* — 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 platform installed prior to concrete placement in floor assembly. The CFS-CID MD PLT firestop device platform is screwed to the fluted deck with one fastener at each corner in accordance with manufacturer installation instructions. The firestop device platform is sized for nominal 2 and 3 in. (51 and 76 mm) deep fluted decks.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-CID MD PLT W2" and W3"

3. Firestop Device\* — Cast in place firestop device installed over firestop device platform (Item 2) prior to concrete placement in floor assembly. The CFS-CID MD Firestop Device is set onto and screwed to the device platform in accordance with manufacturer installation instructions. The firestop device is sized for the diameter of the through penetrant and for the height of the concrete topping over the fluted deck. The device shall be used with Hilti provided extension to accommodate the installation. The firestop device may extend a max of 2 in. (51 mm) above the top surface of the concrete.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-CID MD P 2"/2.5", 3"/2.5" and 4"/2.5"; CFS-CID MD P 2"/4", 3"/4" and 4"/4", CFS-CID MD PX 2"/2.5", 3"/2.5" and 4"/2.5" and CFS-CID MD PX 2"/4", 3"/4" and 4"/4"

3A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Applies to nom 2", 3" and 4" water barrier modules used in combination with the 4" height CFS-CID MD P(X) 2", 3" and 4" devices, respectively, and supplied by device manufacturer. Module is threaded onto top of device after the hole in fluted deck for the penetrant is made. 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

3B. Firestop Device\* — (Optional, Not shown) - Alternate to Water Barrier Module (Item 3A). Top seal plug for use with CFS-CID MD 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. Top Seal Plugs are required for all pipes 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 — CPS and IPS Top Seal Plugs



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4. 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-ceiling assembly. For W Rating with Water Barrier Module (Item 3A), 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 4 in. (102 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 — Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

Nom Pipe Diameter ++ (See Item 5 also)	Firestop Device	T Rating - Hr
1-1/2 in. to 2 in. (38 to 51 mm)	CFS-CID MD P(X) 2"	2
3 in. (76 mm)	CFS-CID MD P(X) 4"	0
3 in. (76 mm)	CFS-CID MD P(X) 3"	2
4 in. (102 mm)	CFS-CID MD P(X) 4"	2

++ L Rating applies only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.)

5. Packing Material — (Not Shown) When pipe sizes are less than those shown in the above table, 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 above smoke seal gasket flush with top surface of device, and the T Rating is 0 hr.

\* 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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