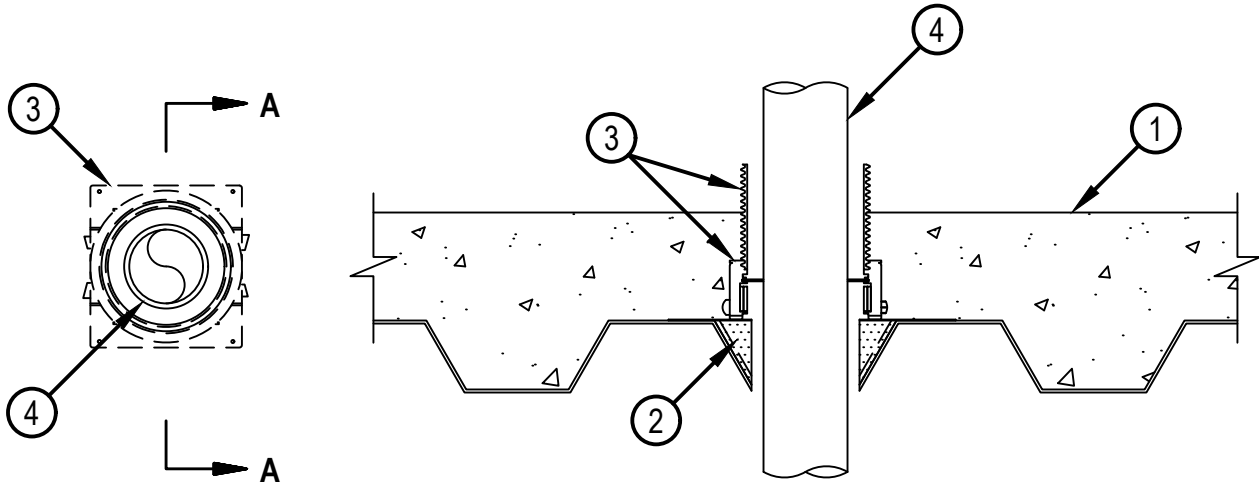




Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2311
F-Ratings - 2 and 3 Hr (See Item 1)
T-Rating - 0 Hr
W-Rating - Class 1 (See Items 5 and 5A)

FA 2311



SECTION A-A

System No. F-A-2311

FA 2311

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 2-1/2 in. (64 mm) thick for 2 Hr F Rating, and min 4-1/2 in. (114 mm) thick for 3 Hr F Rating, reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) 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 prior to concrete placement in floor assembly. The CFS-CID MD Firestop Device is set onto and screwed to the firestop device platform (Item 2) 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 2.5" height devices are intended for a 2.5 in. (64 mm) concrete topping and the 4" height devices for concrete toppings greater than 2.5 in. (64 mm) thick. The firestop device may extend a max of 2 in. (51 mm) above the top surface of the concrete except that for the 2" device, the extension is not restricted.
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"
4. 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
1-1/2 to 2 in. (38 mm to 51 mm)	CFS-CID MD P(X) 2"
3 in. (76 mm)	CFS-CID MD P(X) 3", CFS-CID MD P(X) 4"

*See Item 6 for smaller pipe sizes.

5. Firestop Device* — (Not shown) - Installed in top of device 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). For 2.5" height devices, a Hilti provided extension shall be screwed into top of device to accommodate the installation of the Top Seal Plug. 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. For W Rating, device extensions if used must be cast-in.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CPS and IPS Top Seal Plugs
- 5A. Firestop Device* - Water Barrier Module — (Optional, Not Shown) - Alternate to Top Seal Plug (Item 5). Supplied by device manufacturer. Applies to nom 2" and 3" water barrier modules used in combination with the 4" height CFS-CID MD (X) 2" and 3" devices, respectively. 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 penetrant diam equals device size and device extensions (if used) are cast-in.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module
6. Packing Material — (Not Shown) When pipe sizes are less than those shown in the table above and CFS-CID MD P(X) 2", 3" and 4" devices are used, a 4 in. (102 mm) thickness of 4 pcf (64 kg/m³) mineral wool insulation shall be firmly packed to the fullest extent possible within annulus above smoke seal gasket 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

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