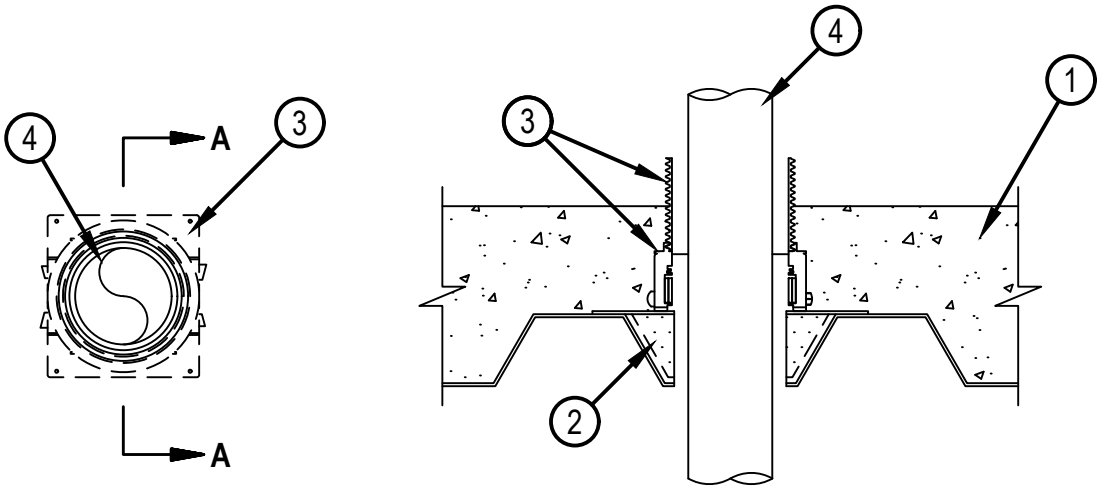
Classified by
Underwriters Laboratories, Inc.
to CAN/ULC-S115

CANADA ONLY

System No. F-A-2317

F Ratings — 2 and 3 Hr (See Item 4)
FT Ratings — 0, 1/4, 3/4, 1 and 2 Hr (See Items 4 and 5)
FH Ratings — 0, 2 and 3 Hr (See Item 4)
FTH Ratings — 0, 1/4, 1 and 2 Hr (See Items 4 and 5)
L Rating At Ambient — Less Than 5.1 L/s/m2 (See Item 4)
L Rating At 204°C — Less Than 5.1 L/s/m2 (See Item 4)



SECTION A-A

System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

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 64, 114 or 152 mm (2-1/2, 4-1/2 or 6 in.) thick normal weight concrete (2400 kg/m3 or 150 pcf). See Items 4D and 4E and Table in Item 4.
   B. Steel Floor and Form Units* — Max 76 mm (3 in.) 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 51 and 76 mm (2 and 3 in.) 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 64 mm (2.5 in.) concrete topping and the 4" height devices for concrete toppings greater than 64 mm (2.5 in.) thick. The devices shall be used with the Hilti provided extension which screws into top of device to accommodate the installation of the packing material (Item 6). The firestop device/extension may extend a max of 51 mm (2 in.) 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" and 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 Penetrant — One nonmetallic pipe to be centered within the firestop system. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of pipe may be used:
   A. Polyvinyl Chloride (PVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR11, SDR 13.5 or SDR17 CPVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR 11 IPEX AquaRise CPVC for use in closed (process or supply) piping systems.
   D. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 cellular or solid core pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Minimum floor thickness is 114 mm (4-1/2 in.) when ABS pipe is used. FT and FTH Ratings are 0 hr for ABS pipe.
   E. Fire Retardant Polypropylene (FRPP) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Minimum floor thickness is 114 mm (4-1/2 in.) when FRPP pipe is used. FT and FTH Ratings are 0 hr for FRPP pipe.
   F. Rigid Nonmetallic Conduit+ — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).
   G. Polyvinyl Chloride (PVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid core IPEX System 15 PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   H. Cross Linked Polyethylene (PEX) Tubing — Nom 51 mm (2 in.) diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   I. XFR Polyvinyl Chloride (PVC-XFR) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid core PVC-XFR pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

The ratings of the firestop systems are dependent on the size of the device, type and size of the penetrant, and the thickness of the concrete assembly as specified in the table below.

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Min Concrete Thickness, mm (in.)	Nom Pipe Diam, mm (in.)++	Penetrant Type (See Item 2)	Firestop Device	Rating, hr			
				F	FT	FH	FTH
64 (2-1/2)	51 (2)	A to G See footnote*	CFS-CID MD P (PX) 2"	2	3/4	0	0
64 (2-1/2)	76 (3)	A to G	CFS-CID MD P (PX) 3"	2	0	0	0
64 (2-1/2)	102 (4)	A to G	CFS-CID MD P (PX) 4"	2	0	0	0
114 (4-1/2)	38 (1.5)	A to G See footnote*	CFS-CID MD P (PX) 2"	2	2	0	0
114 (4-1/2)	76 (3)	A to G See footnote*	CFS-CID MD P (PX) 4"	3	2	3	2
114 (4-1/2)	76 (3)	A to G	CFS-CID MD P (PX) 3"	3	0	0	0
114 (4-1/2)	51 (2)	A to G See footnote*	CFS-CID MD P (PX) 2"	2	2	0	0
114 (4-1/2)	102 (4)	A to G See footnote*	CFS-CID MD P (PX) 4"	3	2	3	2
152 (6)	76 (3)	A, B, C, G	CFS-CID MD P (PX) 3"	2	2	2	2
64 (2-1/2)	51 (2)	H	CFS-CID MD P (PX) 2"	2	0 and 1#	2	1
114 (4-1/2)	51 (2)	H	CFS-CID MD P (PX) 2"	3	0 and 2#	0	0
114 (4-1/2)	Less Than 51 (2)	H	CFS-CID MD P (PX) 2"	3	0	0	0
64 (2-1/2)	51 (2)	I	CFS-CID MD PX 2"	2	1/4	0	0
64 (2-1/2)	76 (3)	I	CFS-CID MD PX 3"	2	1/4	2	1/4
64 (2-1/2)	102 (4)	I	CFS-CID MD PX 4"	2	1	2	1

* When ABS or FRPP pipe is used, FT and FTH Ratings are 0 hr.

T and FTH Ratings are 0 hr for open (vented) piping systems.

++ L Rating applies only when the nom diam of pipe equals size of device (51 mm (2 in.) diam pipe in 2" device etc.) Also applies only to PVC and CPVC pipes. L Rating does not apply when pipe covering and packing material are used.

5. Pipe Covering* — (Optional, Not Shown) - Min 13 mm (1/2 in.) thick hollow cylindrical glass fiber units with an all service jacket installed around 76 mm (3 in). diam (or smaller) ABS or PVC pipe (Items 4A, 4D and 4G) at the top of the floor and extending min 305 mm (12 in.) above floor surface or device. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. Prior to installation of pipe covering, packing material specified in Item 6 shall be installed as required. When pipe covering is used, FT Rating is 2 Hr.
   See Pipe and Equipment Covering Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
6. Packing Material — (Not Shown) - Required as noted in Item 5 above for 2 hr FT Rating. When nom pipe size is less than device size per above Table (ie, nom 76 mm (3 in.) diam pipe in 4" device), min 32 mm (1-1/4 in.) thickness of min 64 kg/m3 (4 pcf) mineral wool batt insulation tightly packed to fill annular space between pipe and device above the smoke seal gasket, flush with top of device except that for penetrant type 4H, the minimum thickness of mineral wool is 102 mm (4 in.).

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.