



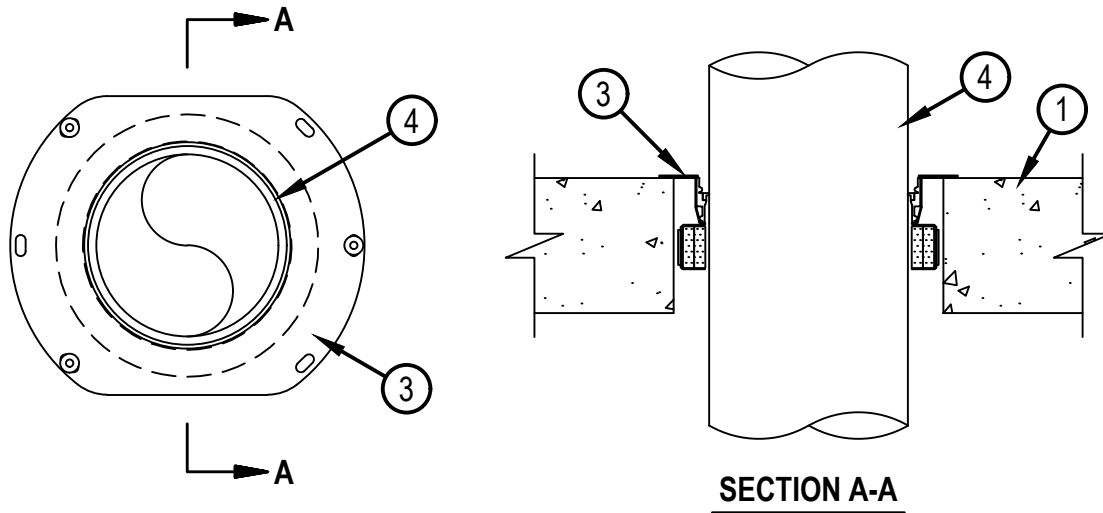
Classified by  
Underwriters Laboratories, Inc.  
to CAN/ULC-S115

## System No. F-A-2214



FA 2214

- F Ratings — 2 and 3 Hr (See Items 1, 1A and 4)**  
**FT Ratings — 0, 1/4 and 1/2 Hr (See Items 2, 2A and 4)**  
**FH Ratings — 0, 2 and 3 Hr (See Items 1, 1A and 4)**  
**FTH Ratings — 0, 1/4 and 1/2 Hr (See Items 2, 2A and 4)**  
**L Rating At Ambient — Less Than 1.55 L/s/m (See Item 3A)**  
**L Rating At 204°C — Less Than 1.55 L/s/m (See Item 3A)**  
**W Rating - Class I**



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 — Min 64 mm (2-1/2 in.) to max 203 mm (8 in.) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. When concrete thickness is min 114 mm (4-1/2 in.), F and FH Rating is 3 hr. When Item 4F is used the concrete thickness shall be min 4-1/2 in. (114 mm).
- 1A. Floor Assembly — (Optional, Not Shown) — The fire rated concrete and steel deck floor assembly shall be constructed of the materials and in the manner specified in the individual D700, D800 or D900 Series designs in the UL Fire Resistance Directory and as summarized below:
  - A. Concrete — Min 64 mm (2-1/2 in.) to max 203 mm (8 in.) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete, as measured over crest of fluted steel deck. When concrete topping thickness is min 114 mm (4-1/2 in.), F and FH Rating is 3 hr. When Item 4F is used the concrete thickness shall be min 114 mm (4-1/2 in.).
  - B. Steel Floor and Form Units\* — Composite or non-composite max 76 mm (3 in.) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
2. Metallic Sleeve — (Optional, Not Shown) -Nom 102, 127 or 152 mm (4, 5 or 6 in.) diam Schedule 10 (or heavier) steel sleeve cast or grouted into floor assembly, flush with floor surfaces. When metallic sleeve is used, FT and FTH Rating is 0 Hr.
- 2A. Sheet Metal Sleeve — (Optional, Not Shown) — Nom 102, 127, 152 or 229 mm (4, 5, 6 or 9 in.) diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 51 mm (2 in.) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 102 mm (4 in.) below the bottom of the deck and flush with the top surface of the concrete floor. When sheet metal sleeve is used, T Rating is 0 Hr.
3. Firestop Device\* — Drop-in firestop device installed in core-drilled or sleeved opening in concrete floor assembly in accordance with accompanying installation instructions. The firestop device flange should be secured to the top surface of the floor with three 6 mm (1/4 in.) diam by min 32 mm (1-1/4 in.) long steel expansion bolts or screw anchors (installed in a triangular fashion through holes provided). As alternates to the anchors specified above, Hilti 6 mm (1/4 in.) diam by 32 mm (1-1/4 in.) long KWIK-CON II+ concrete screw anchor, Hilti 6 mm (1/4 in.) diam by 45 mm (1-3/4 in.) long KWIK-BOLT 3 steel expansion anchor or Hilti 6 mm (1/4 in.) by 19 mm (3/4 in.) long Metal HIT Anchor may be used. In addition, for nom 51 mm (2 in.), 76 mm (3 in.) and 102 mm (4 in.) firestop devices, four 18 mm (11/16 in.) long Hilti X-GH P18 MX steel fasteners may be installed through the steel flange, two on each side. The firestop devices shall be installed as detailed in the following table:



**Hilti Firestop Systems**

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September 10, 2024

# System No. F-A-2214



FA 2214

Core Hole or Sleeve Diam, mm (in.)	Firestop Device	Nom Diam of Through Penetrant, mm (in.)
102 (4)	CFS-DID 2"MD	51 (2) or smaller+
127 (5)	CFS-DID 3"MD	76 (3)
152 (6)	CFS-DID 4"MD	102 (4)
229 (6)	CFS-DID 6"MD	152 (6)

+ For pipe smaller than nom 51 mm (2 in.) diam, Adapter and Top Seal Plug is required to be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-DID 2"MD, CFS-DID 3"MD, CFS-DID 4"MD, CFS-DID 6"MD

3A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Used in combination with the CFS-DID device and supplied by device manufacturer. Module is threaded onto top of device.

W Rating and L Rating apply only when water barrier module is used.

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

4. Through Penetrant — One nonmetallic pipe to be installed within the firestop device. Pipe to be rigidly supported on both sides of floor assembly. The following types of pipe may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 152 mm (6 in.) 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. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 152 mm (6 in.) diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 152 mm (6 in.) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 152 mm (6 in.) diam (or smaller) Schedule 40 (or heavier) FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

E. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR 11 CPVC for use in closed (process or supply) piping systems.

IPEX INC — AquaRise

F. 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 and vented) piping systems.

F rating of the firestop system is limited to 2 hr when PEX tubing is used.

FT and FTH Rating is 1/4 hr when Pipe D is used. FT, FH, and FTH rating is 0 hr when Pipe F is used.

\* 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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