

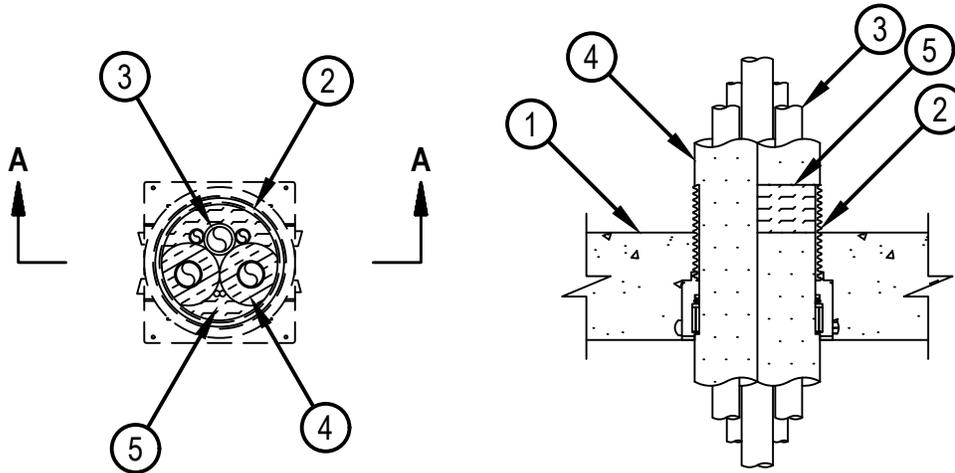


Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. F-A-8016

FA 8016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 1/2 Hr	FT Rating — 1/2 Hr
	FH Rating — 3 Hr
	FTH Rating — 1/2 Hr



SECTION A-A

- 1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete.
- 1A. Steel Floor Unit/ Floor Assembly — (Not Shown)- As an alternate to Item 1, the floor assembly may consist of a fluted steel floor unit/ concrete floor assembly. The floor assembly shall be constructed of the materials and in the manner described in the individual D900 Series Design in the Fire Resistance Directory and shall include the following construction features:
 - A. Steel Floor and Form Units* — Composite or non-composite 1-1/2 in. to 3 in. (38 to 76 mm) deep fluted galv steel units as specified in the individual Floor-Ceiling Design.
 - B. Concrete — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete, as measured from the top plane of the floor units.
- 2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions with a max 2 in. (51 mm) projection above the top surface of the concrete.
 - HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-110/4"N, CP 682-110/4", CP 680-M 3", CP 680-M 4", CP 680-P 3", CP 680-P 4", CP 680-PX 3"



Hilti Firestop Systems

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3. Through Penetrants — Pipes, tubing or cable to be bundled within the device. The annular space between penetrants and the device is min 0 in. to max 3/4 in. (19 mm). Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used.
- 3A. Metallic Pipes — A max of four pipes or tubes installed within the device. Of the four metallic penetrants, a max of two may have a nom diam greater than 1/2 in. (13 mm). The following types and sizes of metallic pipes, conduits or tubing may be used:
- A. Steel Pipe — Nom 1 in. (25 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.
 - C. Conduit — Nom 1 in. (24 mm) diam (or smaller) steel electrical metallic tubing or 1 in. (25 mm) diam (or smaller) steel conduit.
 - D. Copper Pipe — Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - E. Copper Tube — Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.
- 3B. Nonmetallic Pipes — A max of one nonmetallic pipe or conduit may be used. The following types and sizes of nonmetallic pipes or conduits may be used :
- A. Polyvinyl Chloride (PVC) Pipe — Nom 1-1/4 in. (32 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in vented (drain, waste or vent) or closed (process or supply) piping systems.
 - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 1-1/4 in. (32 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
- 3C. Cables — A max of two of the following:
- A. 4 pair No. 8 AWG (or smaller) thermostat cables with PVC insulation and jacket.
 - B. Max 3/C No. 12 AWG with ground with polyvinyl chloride jacketed steel glad Type MC cable.
 - C. Max 1/C 750 kcmil (or smaller) copper conductor cable with polyvinyl chloride (PVC) insulation and jacket.
 - D. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
4. Tube Insulation - Plastics# — Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation shall be installed on all metallic penetrants (Item 3A) having a nom diam greater than 1/2 in. (13 mm).
See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
5. Packing Material — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed within top of device, flush with the top 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.

