

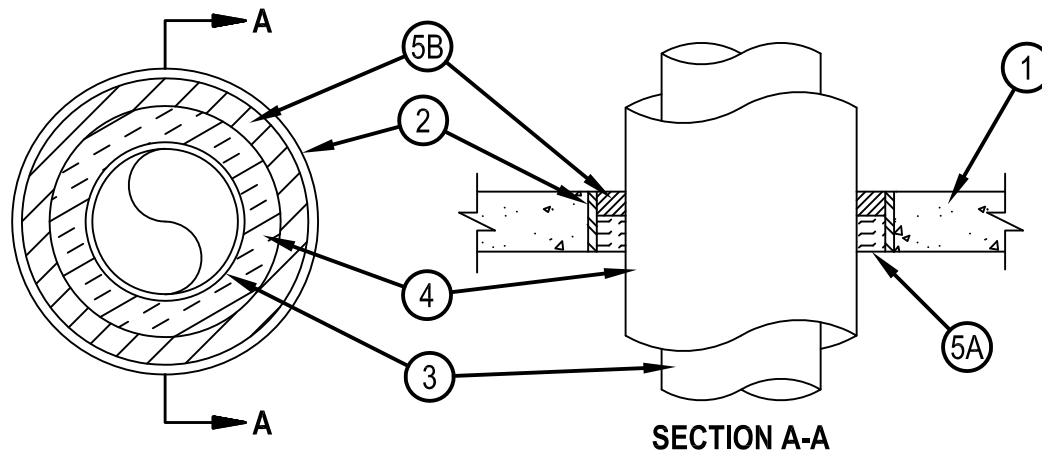


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-A-5021

FA 5021

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — 4 CFM/Sq Ft	FH Rating — 2 Hr
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Rating — 0 Hr
	L Rating At Ambient — 4 CFM/Sq Ft



1. Floor Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Max diam of opening is 18 in. (457 mm).
 - 1A. Floor Assembly — (Optional — Not Shown) — 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 reinforced lightweight on normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.
 - B. Steel Floor and Form Units* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
2. Metallic Sleeve — (Optional) — Nom 18 in. (457 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - 2A. Sheet Metal Sleeve — (Optional) Max 6 in. (152 mm) 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 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the floor and a max of 1 in. (25 mm) above the top surface of the floor.
 - 2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 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 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the floor and a max of 1 in. (25 mm) above the top surface of the floor.
3. Through-Penetrant — One metallic pipe or tubing to be installed within the firestop device. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe or tubing may be used:
 - Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
January 20, 2015



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

System No. F-A-5021

FA 5021

4. Pipe Covering* — Nom 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units, jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied SSL tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the periphery of the opening shall be min 1/2 in. (13 mm) to a max 1-7/8 in. (48 mm).

See Pipe Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material 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.

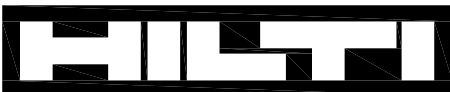
5. Firestop System — The firestop system shall consist of the following:

A. Packing Material — Min 1-1/2 in. (38 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material* — Sealant — Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor. In addition, when steel sleeve extends beyond top surface of floor, a min 3/8 in. (10 mm) bead of sealant shall be applied at the interface of the sleeve and concrete around periphery of opening at top surface of floor.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

* 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

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
January 20, 2015