

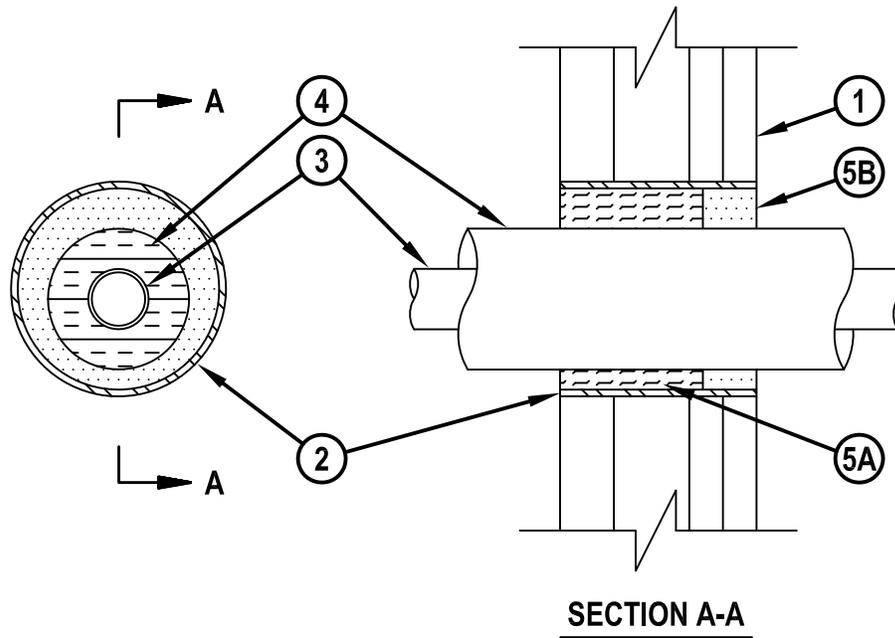


Classified by  
Underwriters Laboratories, Inc.  
to UL 1479 and CAN/ULC-S115

# System No. W-L-5143

WL 5143

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Items 1 and 5)	F Rating — 1 and 2 Hr (See Items 1 and 5)
T Rating — 1/2 Hr	FT Rating — 1/2 Hr
	FH Rating — 1 and 2 Hr (See Items 1 and 5)
	FTH Rating — 1/2 Hr



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features.
  - A. Studs — "C-T" shaped studs 1-5/8 in. (41 mm) wide by 2-1/2 in. (64 mm) deep, fabricated from 25 MSG galv steel, spaced max 24 in. (610 mm) OC.
  - B. Gypsum Boards\* — One layer of nom 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner and one or two layers of nom 5/8 in. (16 mm) thick, 4 ft. (122 cm) wide gypsum board with square or tapered edges. The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 4 in. (102 mm).



**Hilti Firestop Systems**

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## System No. W-L-5143

WL 5143

1A. Wall Assembly — As an alternate to the above wall assembly, the 1 or 2 Hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC.
- B. Gypsum Boards\* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 4 in. (102 mm).

The hourly F, FH Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Metallic Sleeve — Max 4 in. (102 mm) diam cylindrical sleeve fabricated from min 0.016 in. (0.4 mm) thick (28 gauge) galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. Sleeve may also be formed of No. 8 steel wire mesh having a min 1 in. (25 mm) lap along the longitudinal seam.

3. Through Penetrants — One metallic pipe or tube to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes or tubing may be used:

- A. Copper Tubing — Nom 1 in. (25 mm) diam (or smaller) Type L copper tubing
- B. Copper Pipe — Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

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 annular space between the insulated pipe and the periphery of the steel sleeve shall be min 1/4 in. (6 mm) and max 1-1/8 in. (28.6 mm).

See Plastics+ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Plastics Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

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

A. Packing Material — Min 1-5/8 or 2-1/4 in. (41 or 57 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into sleeve on one side of the wall as a permanent form for 1 and 2 hr walls, respectively. Packing material to be recessed from the room side of wall as required to accommodate the required thickness of fill material. In alternate wall assembly, packing material to be flush with either side of the wall and be recessed from the other side of the wall to accommodate the required thickness of fill material.

B. Fill, Void or Cavity Material\* — Sealant — Min 1-1/2 in. (38 mm) thickness of fill material applied within sleeve, flush with room surface of wall or either wall surface in the alternate wall assembly.

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.



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