

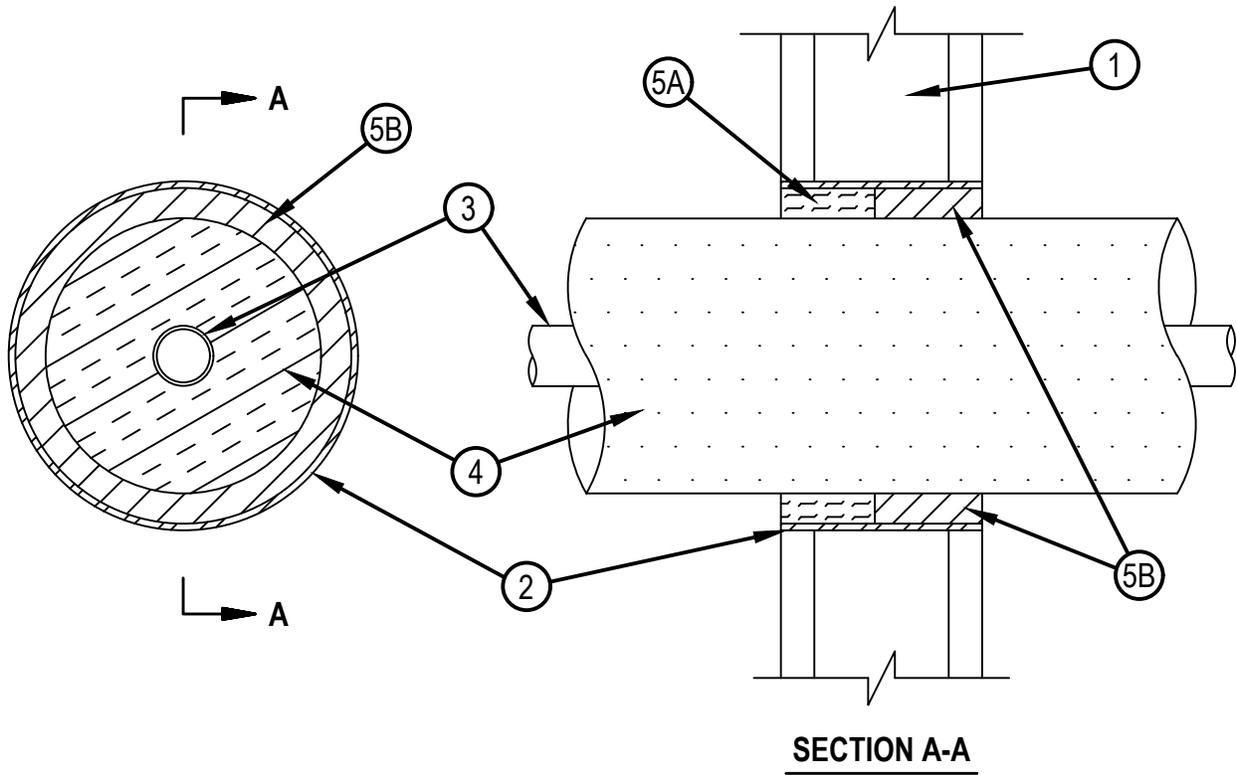


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-5144

WL 5144

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



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1. Wall Assembly — The 1 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-H” or “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 Board* — One layer of nom 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner and one layer 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 6-1/2 in. (165 mm).
- 1A. Wall Assembly — As an alternate to the above wall assembly, the 1 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 Board* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 6-1/2 in. (165 mm).
2. Metallic Sleeve — Max 6-1/2 in. (165 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. 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. Pipe Covering* — Nom 2 in. (51 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 steel sleeve shall be min 1/4 in. (6 mm) to max 1-1/8 in. (28.6 mm).

See Pipe and 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 1-5/8 in. (41 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into sleeve on one side of the wall as a permanent form. 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 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 the room surface of wall or either surface in the alternate wall assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — 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.

