

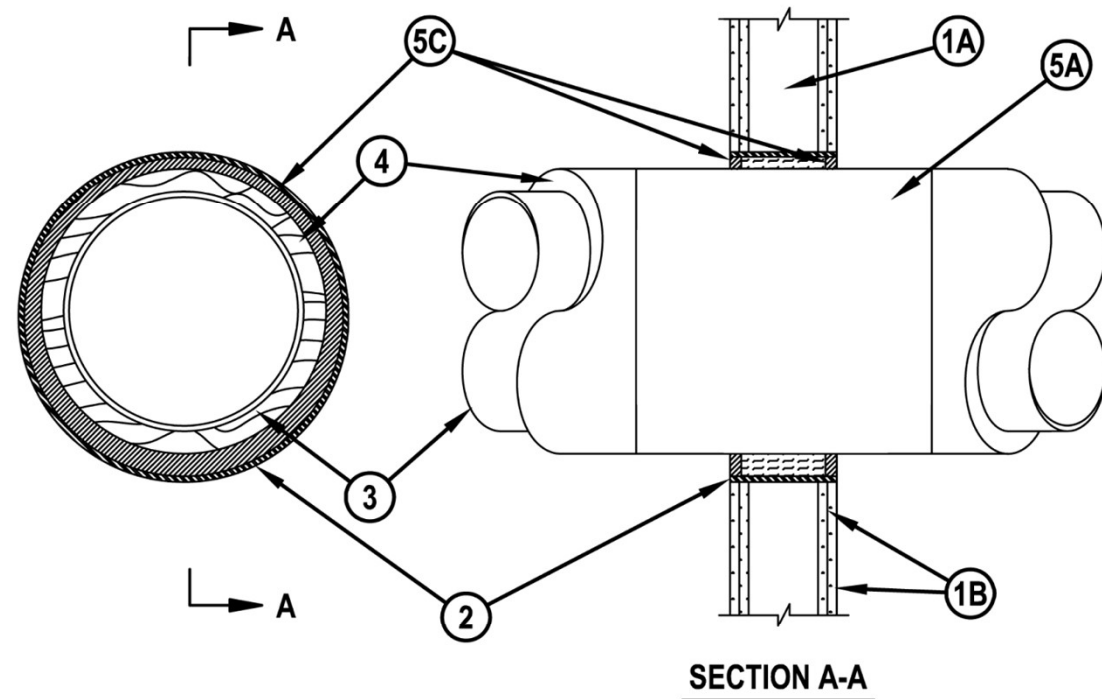


System No. W-L-5047

WL 5047

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

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| ANSI/UL1479 (ASTM E814) | CAN/ULC S115 |
| F Rating — 1 & 2 Hr (See Item 1) | F Rating — 1 & 2 Hr (See Item 1) |
| T Rating — 0 & 1-1/2 Hr (See Item 1) | FT Rating — 0 & 1-1/2 Hr (See Item 1) |
| | FH Rating — 1 & 2 Hr (See Item 1) |
| | FTH Rating — 0 & 1-1/2 Hr (See Item 1) |



1. Wall Assembly — The 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. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of the stud cavity, the opening shall be framed on all sides using lengths of studs installed between the vertical studs and attached to the studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the metallic sleeve (Item 2) such that a clearance of 2 to 3 in. (51 to 76 mm) is present between the sleeve and the framing on all four sides.
 - B. Gypsum Board* — Two layers of nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls and 30 in. (762 mm) for steel stud walls.
- 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. The T, FT, FTH Rating is 0 hr when installed in 1 hr wall assembly or when optional metallic sleeve (Item 2) is used. The T, FT, FTH Rating is 1-1/2 hr when installed in 2 hr wall assembly and optional sleeve is not used.



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- 2. Metallic Sleeve (Optional) — Nom 30 in. (762 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surfaces.
- 3. Through Penetrants — One metallic pipe or tubing to be positioned within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
 - A. Steel Pipe — Nom 20 in. (508 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 20 in. (508 mm) diam (or smaller) cast or ductile iron pipe.
 - C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
- 4. Pipe Covering* — 1 to 3 in. (25 to 76 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 of factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. Pipe covering to terminate 6 in. (152 mm) from each side of the assembly.
- 5. Firestop System — The firestop system shall consist of the following:
 - A. Pipe Covering Materials* — Nom 1 to 3 in. (25 to 76 mm) thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube and extending 6 in. (152 mm) beyond each surface of the wall surface. Pipe insulation secured with min 18 AWG steel wire 3 in. (76 mm) beyond each surface of the wall assembly. When steel sleeve is not used, the annular space shall be min 1/4 in. (6 mm) to max 3 in. (76 mm), or when sleeve is used, min 1 in. (25 mm) to max 2-1/4 in. (57 mm).
IIG MINWOOL L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc
 - B. Sheathing Material* — All service jacket material shall be wrapped around the outer circumference of the pipe covering material (Item 4A) with kraft side exposed. Longitudinal joints sealed with metal fasteners or self-sealing lap tape. See Sheathing Material (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing 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.
 - C. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. or 1-1/4 in. (16 mm or 32 mm) thickness of fill material applied within the annulus flush with both surfaces of wall, for 1 or 2 hr walls, respectively.
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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