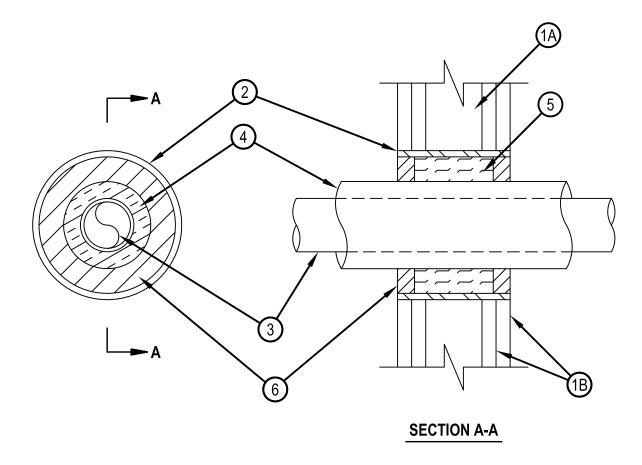


System No. W-L-5027

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



- 1. Wall Assembly The fire-rated gypsum wallboard/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.
 - B. Gypsum Board* Two layers of 5/8 in. (16 mm) thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 6 in. (152 mm).
- 2. Metallic Sleeve Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surfaces.



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- 3. Through Penetrants One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
 - A. Steel Pipe Nom 2 in. (51 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
 - B. Copper Tubing Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - C. Copper Pipe Nom 2 in. (51 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. An annular space of min 1-3/16 in. (30 mm) to max 1-5/8 in. (41 mm) is required within the firestop system.

 See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
- 5. Packing Material Min 3-1/2 in. (89 mm) thickness of min 4.0 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material
- 6. Fill, Void or Cavity Material* Sealant Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.

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.

