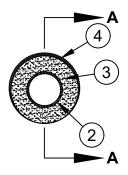
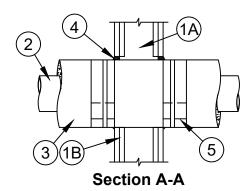


ANSI/UL1479 (ASTM E814)	CAN/ULC S115	
F Ratings - 1 and 2 Hr (See Item 1B)	F Ratings - 1 and 2 Hr (See Item 1B)	
T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	FT Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Item 1B)	
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	
	L Rating At Ambient - Less Than 5.1 L/s/m2	
	L Rating At 400 F - Less Than 5.1 L/s/m2	





- 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 U300, U400, V400 or W400 Series Wall or Partition Design 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 max spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. wide (89 mm) and spaced max 24 in. (610 mm) OC.
 - B. **Gypsum Board* -** 5/8 in. (16 mm) thick, 4 ft. (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 14 in. (356 mm) for wood stud walls and 20 in. (508 mm) for steel stud walls.
 - The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
- 2. **Through Penetrant -** One metallic pipe or tubing to be installed either concentrically or eccentrically 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 tubes may be used:
 - A. Steel Pipe Nom 16 in. (406 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe Nom 16 in. (406 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.



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3. **Pipe Covering Materials* - Cellular Glass Insulation -** Nom 1 to 3 in. (25 to 76 mm) thick cellular glass units sized to the outside diam of the through-penetrant and supplied in nom 24 in. (610 mm) long half sections or nom 18 in. (457 mm) long segments. Pipe insulation installed on pipe in accordance with the manufacturer's instructions. The annular space between insulated pipe or tubing and periphery of opening shall be min 0 in. (point contact) to max 1-1/2 in. (38 mm). The hourly T Rating is dependent upon the insulation thickness and the hourly rating of the wall, as shown in the following table:

Fire Rating of Wall Hr	FOAMGLAS Insulation Thickness, in. (mm)	T Rating, Hr
1 or 2	1 (25)	3/4
1 or 2	1 1/2 (38)	1
1	2 or 3 (51 or 76)	1
2	2 (51)	1 1/2
2	3 (76)	2

- 4. **Fill, Void or Cavity Materials* Sealant -** Min 5/8 in. (16 mm) thickness of fill material applied within the annulus flush with both surfaces of wall. At point contact location, min 3/8 in. (10 mm) diam bead of fill material to be applied at the insulated metal pipe/gypsum board interface on both sides of wall.
 - SPECIFIED TECHNOLOGIES INC SpecSeal Series SSS Sealant or SpecSeal LCI Sealant or SpecSeal SIL300 Sealant
- 5. **Metal Jacket -** (Optional) Min 12 in. (305 mm) long jacket formed of min 0.010 in. (0.25 mm) thick aluminum sheet cut to wrap tightly around the pipe insulation with a min 2 in. (51 mm) lap and secured using bands and seals of similar material. Bands to be located within 2 in. (51 mm) of each end of the jacket and spaced max 10 in. (254 mm) OC. Jacket to be installed with edge abutting surface of fill material (Item 4) on each side of wall. Metal jacket to be used in addition to any other jacketing material which may be required or desired on the pipe insulation.
 - * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



