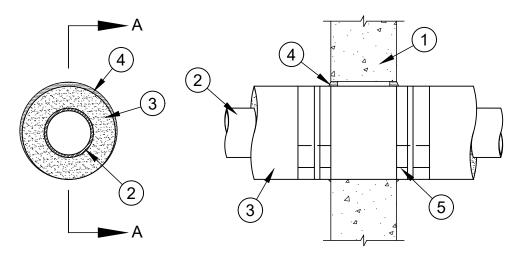


ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)	FT Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Item 3)
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F - Less Than 1 CFM/sq ft	FTH Ratings - 3/4, 1, 1-1/2 and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



Section A-A

- 1. Wall Assembly Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 20 in. (508 mm).
 - See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- 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 tubing 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.
- 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).

When nom 1 in. (25 mm) thick insulation is used, T Rating is 3/4 hr.

When nom 1-1/2 in. (38 mm) thick insulation is used, T Rating is 1 hr.

When nom 2 in. (51 mm) thick insulation is used, T Rating is 1-1/2 hr.

When nom 3 in. (76 mm) thick insulation is used, T Rating is 2 hr.



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- 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 insulated metal pipe/concrete interface on both sides of wall.
 - SPECIFIED TECHNOLOGIES INC SpecSeal Series SSS Sealant, 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.

