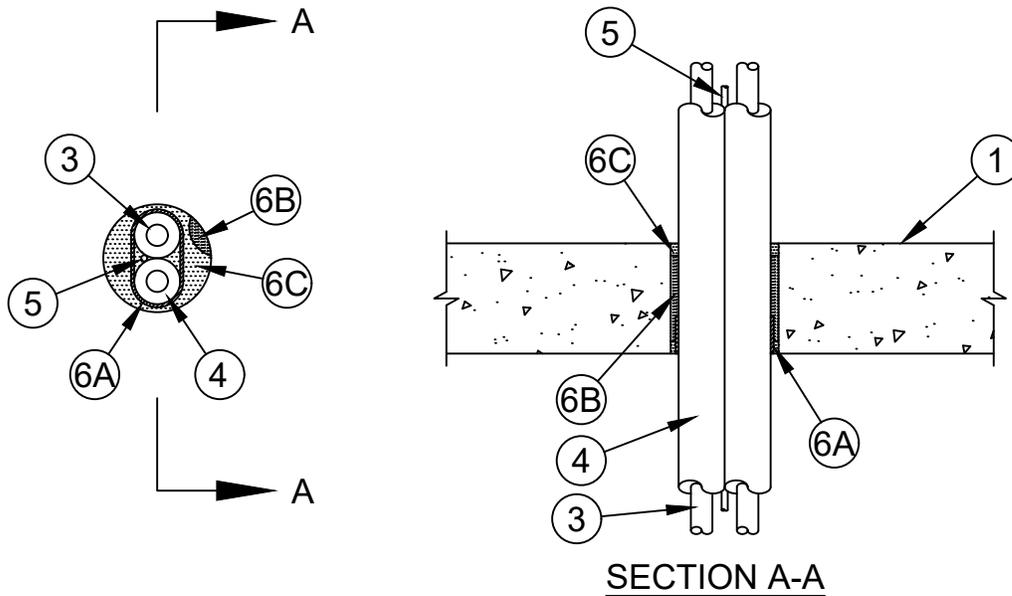




ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



1. **Floor or Wall Assembly** - Min 4-1/2 in. (114 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 4-1/2 in. (114 mm).
See **Concrete Blocks** (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. **Sheet Metal Sleeve** - (Optional, not shown) -Nom 4-1/2 in. (114 mm) diam (or smaller) No. 24 GA (0.028 in. or 0.71 mm thick) galvanized sheet metal sleeve with square flange spot welded to the sleeve at approx mid-height and sized to be a min of 2 in. (51 mm) larger than the sleeve diam cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
- 2B. **Sheet Metal Sleeve** - (Optional, not shown) - No. 24 GA (0.028 in. or 0.71 mm thick) galvanized sheet metal sleeve friction-fit in floor or wall assembly, flush with both sides of floor or wall. Longitudinal seam to overlap a min 1 in. (25 mm).
3. **Through Penetrants** - A max of two pipes, conduits or tubing to be installed within the opening. The annular space between the pipes, conduits or tubing and the periphery of the opening shall be min 3/8 in. (10 mm) to max 2-1/4 in. (57 mm). The annular space between the pipes, conduits or tubing and other penetrants shall be a min 0 in. (point contact) to a max 1/8 in. (3.2 mm). Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:



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- A. **Steel Pipe** - Nom 3/4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
 - B. **Iron Pipe** - Nom 3/4 in. diam (or smaller) cast or ductile iron pipe.
 - C. **Conduit** - Nom 3/4 in. diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT).
 - D. **Copper Pipe** - Nom 3/4 in. diam (or smaller) regular (or heavier) copper pipe.
 - E. **Copper Tube** - Nom 3/4 in. diam (or smaller) Type L (or heavier) copper tube.
4. **Pipe Insulation - Foamed Plastic*** - Nom 1/2 in. (13 mm) thick polyethylene (PE) foamed plastic insulation. The insulation may be preassembled on a max of two pipes or tubes.

See **Foamed Plastic** (BRYX) category in the Building Materials Directory for names of manufacturers. Any foamed plastic pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less may be used.

5. **Cables** - Max four pair No. 18 AWG (or smaller) copper conductor thermostat cable with PVC insulation and jacket. Cable shall be spaced 0 in. (point contact) to max 1/8 in. (3.2 mm) from insulated and bare penetrants. The annular space between the cable and the periphery of the opening shall be min 3/8 in. (10 mm) to max 2-1/4 in. (57 mm). Cable rigidly supported on both sides of floor or wall assembly.
6. **Firestop System** - The firestop system shall consist of the following:
- A. **Fill, Void or Cavity Material* - Wrap Strip** - Nom 1/8 in. (3.2 mm), 3/16 in. (4.8 mm) or 1/4 in. (6.4 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) or 2 in. (51 mm) wide strips. One layer of wrap strip encircled around penetrant bundle, secured with one layer of aluminum foil tape and slid into annular space such that bottom edge is positioned flush with bottom surface of the floor or exposed edges are positioned flush with each side of wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal RED, RED2, BLU or BLU2 Wrap Strip

- B. **Packing Material** - Min 3-1/2 in. (89 mm) thickness of 4 pcf (64 kg/m³) mineral wool batt insulation tightly packed into annular space as a permanent form. Packing material recessed from both surfaces of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
- C. **Fill, Void or Cavity Material* - Sealant** - Min 1/2 in. (13 mm) thickness of fill material applied flush with top and bottom surfaces of floor or with both sides of wall. Additional fill material forced into grouped penetrant interstices to max extent possible.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or SpecSeal SIL300 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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