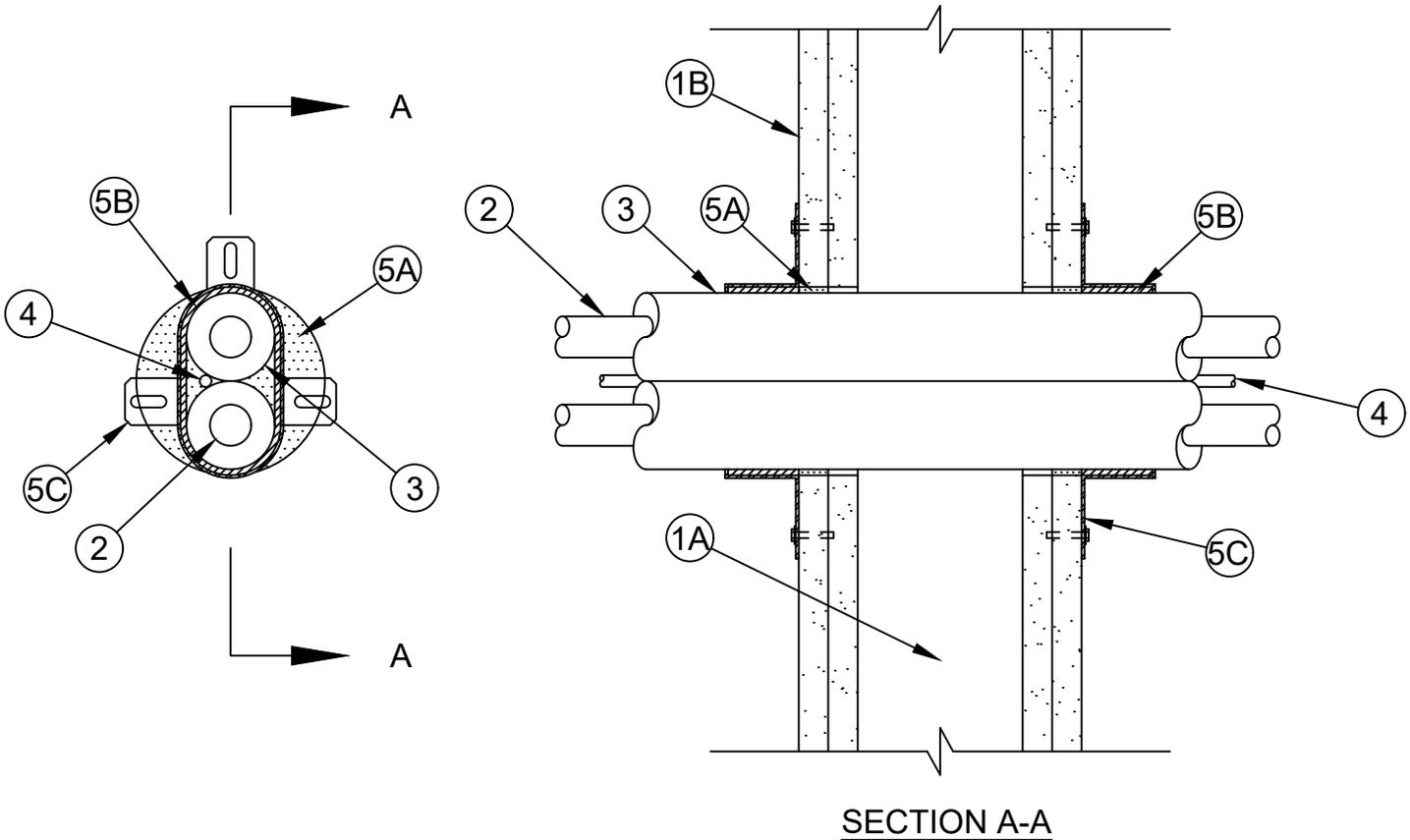




| ANSI/UL1479 (ASTM E814) | CAN/ULC S115 |
|-------------------------------------|---------------------------------------|
| F Ratings - 1 and 2 Hr (See Item 1) | F Rating - 1 and 2 Hr (See Item 1) |
| T Rating - 0 or 3/4 Hr (See Item 1) | FT Rating - 0 or 3/4 Hr (See Item 1) |
| | FH Rating - 1 and 2 Hr (See Item 1) |
| | FTH Rating - 0 or 3/4 Hr (See Item 1) |



SECTION A-A

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 specified in the individual U300, V300, 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 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
 - B. **Gypsum Board*** - Thickness, type, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, V300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 4 in. (102 mm).

The F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall in which it is installed. When the F rating is 1 hour the T, FT and FTH Ratings are 0 HR.



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2. **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 1/8 in. (3.2 mm) to max 2 in. (51 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 wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
- 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.
3. **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.
4. **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 1/8 in. (3.2 mm) to max 2 in. (51 mm). Cable rigidly supported on both sides of wall assembly.
5. **Firestop System** - The firestop system shall consist of the following:
- A. **Fill, Void or Cavity Material* - Sealant** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of the wall. Additional fill material forced into grouped penetrant interstices to max extent possible.
SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
 - B. **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 with ends butted and held in place with masking tape. The edge of the wrap strips shall abut the surface of the wall on each side of the wall.
SPECIFIED TECHNOLOGIES INC - SpecSeal RED, RED2, BLU or BLU2 Wrap Strip
 - C. **Steel Collar** - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be nom 1-1/2 in. (38 mm) to 2 in. (51 mm) deep, dependent upon width of wrap strip, with min three 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for attachment to the wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degrees toward through-penetrant surface to maintain the annular space around the through-penetrant and to retain the wrap strips. Steel collar wrapped around wrap strips and penetrant bundle with a 1 in. (25 mm) wide overlap along its perimeter joint. Steel collar tightened around wrap strips and penetrant bundle using min 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel hose clamp installed at midheight of the collar or using three symmetrically located No. 8 steel sheet metal screws. Collar secured to wall surface by means of 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts or toggle bolts in conjunction with min 1-1/4 in. (32 mm) diam steel fender washers. Three fasteners symmetrically located, are required on each side of the wall.

* 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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