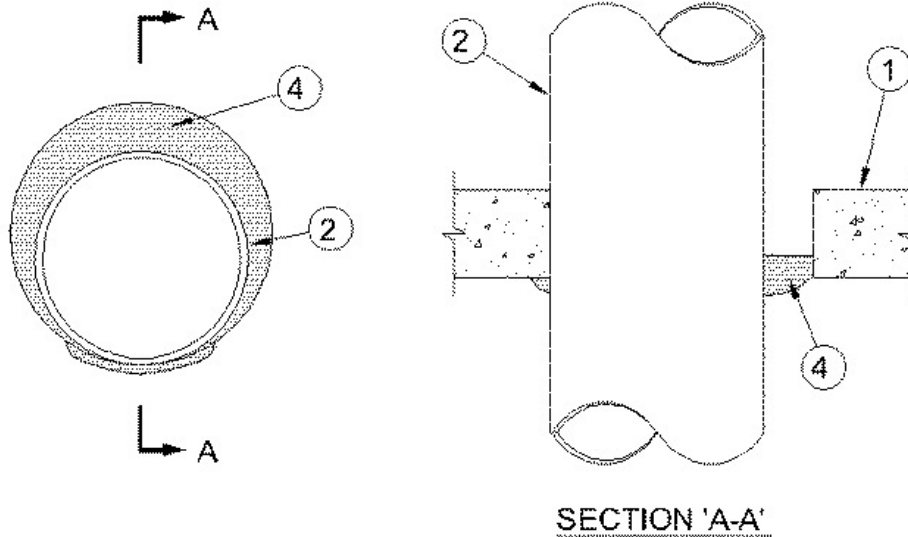


ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 3 Hr
	FTH Rating — 0 Hr



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced light weight or normal weight (100-150 pcf OR 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow core **Precast Concrete Units**. Max diam of opening is 9-5/8 in. (244 mm). When precast concrete units are used the max diam of opening is 7 in. (178 mm).

See **Concrete Blocks (CAZT)** and **Precast Concrete Units*** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants — One metallic pipe or tubing to be installed concentrically or eccentrically into opening such that the annular space between the pipe and the periphery of the opening is min 0 in. (point of contact) to max 1 in. (25 mm) Pipe to be firmly supported on both sides of opening. The following types and sizes of pipes may be used:

- A. **Steel Pipe** — Nom 8 in. (203 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
- B. **Iron Pipe** — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
- C. **Conduit** — Nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing or steel conduit.
- D. **Copper Tubing** — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
- E. **Copper Pipe** — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. Packing Material — (Temporary - not shown) - Min 1 in. (25 mm) diam backer rod firmly pressed into opening as a temporary form. Forming material to be recessed by min 1-1/2 in. (38 mm) from floor surface or one or both surfaces of wall. Forming material to be removed when sealant (Item 4) has cured.

3A. Packing Material — (Optional, not shown) - As an alternate to Item 3, min 1 in. (25-mm) thick, 4.0-pcf (64 kg/m³) mineral wool compressed firmly into the opening as a permanent form. Mineral wool to be recessed a min 1-1/2 in. (38-mm) from underside of floor or either surface of the wall.

4. Fill, Void, or Cavity Materials* — Sealant — Min 1-1/2 in. (38 mm) thickness of fill material applied within the annulus, flush with either the bottom or top surface of floor or one surface of the wall. When wall is constructed of concrete blocks, fill material shall be installed within the annular space on both sides of wall. In floors of precast concrete units, fill material shall be installed on the bottom side of the floor. An additional 1 in. (25 mm) thick crown of sealant shall be applied over the sealant in the annular space, around the circumference of the pipe at the floor or wall surface The crown of sealant shall overlap the concrete or block surface by min 1 in. (25 mm).

RECTORSEAL — FlameSafe® FS1900 Sealant, [Metacaulk 1000](#), [Metacaulk 350i](#), Biostop 350i or Biostop 500+

*,+ 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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