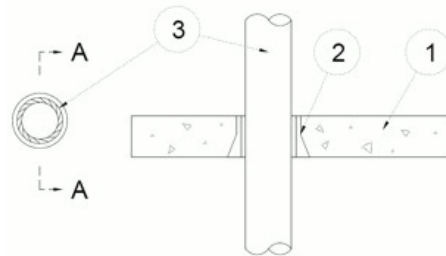
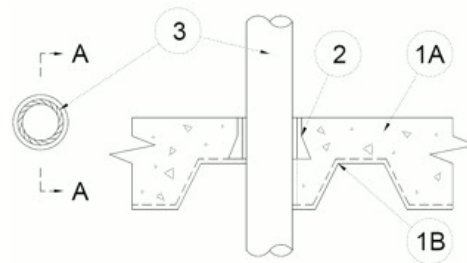


ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Ratings — 3 and 4 Hr (See Item 6)	F Ratings — 3 and 4 Hr (See Item 6)
T Rating — 1/4, 1/2, 2 and 3 Hr (See Items 3 and 6)	FT Rating — 1/4, 1/2, 2 and 3 Hr (See Items 3 and 6)
L Rating At Ambient — Less Than 1 CFM/device	FH Ratings — 3 and 4 Hr (See Item 6)
L Rating At 400 F — Less Than 1 CFM/device	FTH Rating — 1/4, 1/2, 2 and 3 Hr (See Items 3 and 6)
W Rating — Class 1 (See Item 5)	L Rating At Ambient — Less Than 5.1 L/s m ²
	L Rating At 400 F — Less Than 5.1 L/s m ²



Section A-A

Config A



Section A-A

Config B

1. Floor Assembly — (Config A) Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.

1A. Floor Assembly — (Config B) As an alternate to item 1, The fire-rated unprotected concrete and steel deck floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. Concrete — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.

B. Steel Floor and Form Units* — Composite or non-composite max 3 in. (76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design.

2. Firestop Devices* — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device may project up to a max of 5-1/2 in. (140 mm) above top surface of floor or trimmed flush with top surface of floor. The devices are provided in sizes, nom 2, 3, 4 and 6 in. (51,76,102 and 152 mm) diam sizes.

RECTORSEAL — [Metacaulk Cast-in-Place Device](#)

3. Through Penetrants — One metallic pipe, tubing or conduit installed within the firestop system. Penetrant to be rigidly supported on both sides of floor assembly. The penetrant size shall be matched to the device size and shall not exceed maximum 6 in. nominal diameter. A min 1/2 in. (13 mm) annular space shall be maintained between the penetrant and the device. The following types of metallic penetrants may be used:

A. Steel Pipe — Schedule 5 (or heavier) steel pipe.

- B. **Iron Pipe** — Cast or ductile iron pipe.
- C. **Conduit** — Steel conduit or steel electrical metallic tubing.
- D. **Copper Tubing** — Type L (or heavier) copper tubing.
- E. **Copper Pipe** — Regular (or heavier) copper pipe.

The T Rating is 1/2 Hr for penetrants A, B or C. The T Rating is 1/4 Hr for Penetrants D and E.

4. **Packing Material** — (Optional, Not Shown) Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into the annular space between the penetrant and device as a permanent form, flush with the top surface of the floor. For 6 in (152 mm) devices a min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into the top of the firestop device (Item 2) as a permanent form, flush with the top surface of the floor or recessed from top of device to accommodate the required thickness of caulk.

5. **Fill, Void or Cavity Material* — Caulk** — (Optional, Not Shown) - Caulk applied within device, flush with top surface of device. The minimum thickness and packing material shall conform to the following table:

Caulk	Minimum Thickness In., (mm)	Device Size In. (mm)	Packing Material
Metacaulk 835+ or Metacaulk 1200	1/4 (6)	2, 3, 4 (51, 76, 102)	Min. 3 in. (76 mm) thickness of min. 4.0 pcf (64 kg/m ³) mineral wool
Metacaulk 835+ or Metacaulk 1200	3/8 (10)	6 (152)	Min. 3 in. (76 mm) thickness of min. 4.0 pcf (64 kg/m ³)
Metacaulk 150+ or Metacaulk 1200	1/2 (13)	2, 3, 4, 6 (51, 76, 102, 152)	Foam backer rod
Metacaulk 1000	1/2 (13)	2, 3, 4, 6 (51, 76, 102, 152)	Min. 4 in. (102 mm) thickness of min. 4.0 pcf (64 kg/m ³) mineral wool

RECTORSEAL — [Metacaulk 150+](#), [Metacaulk 835+](#) [Metacaulk 1000](#), or [Metacaulk 1200](#).

W Rating only applies when the optional caulk is used.

6. **Duct Wrap Material*** — (Optional, Not Shown) - Two layers of nom 2 in. (51 mm) thick fiberglass duct wrap, min 1 pcf (16 kg/m³), tightly wrapped around penetrant and tightly butted to the top surface of the floor to extend above floor as shown in the table below. When the device (Item 2) extends above floor surface, the duct wrap shall be tightly wrapped around the device and penetrant and tightly butted to the top surface of floor. All longitudinal seams of both layers of duct wrap are sealed with foil tape. **When duct wrap is used, F Rating is limited to 3 hr.**

When duct wrap is used, T Rating is dependent on the criteria shown in the table below.

Max Pipe Size, in. (mm)	Pipe/Tube Type	Min insulation height, in. (mm)	Min insulation height, in. (mm)	T Rating
		Inner Layer	Outer Layer	
4 (102)	Steel, Iron or Conduit	12 (305)	12 (305)	3
4 (102)	Copper	24 (610)	12 (305)	3
6 (152)	All	24 (610)	12 (305)	2

See **Batts and Blankets (BKNV)** category in the Building Materials Directory for names of manufacturers. Any batts and blankets material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

*,+ Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Reprinted from the Online Certifications Directory with permission from UL. ©UL LLC