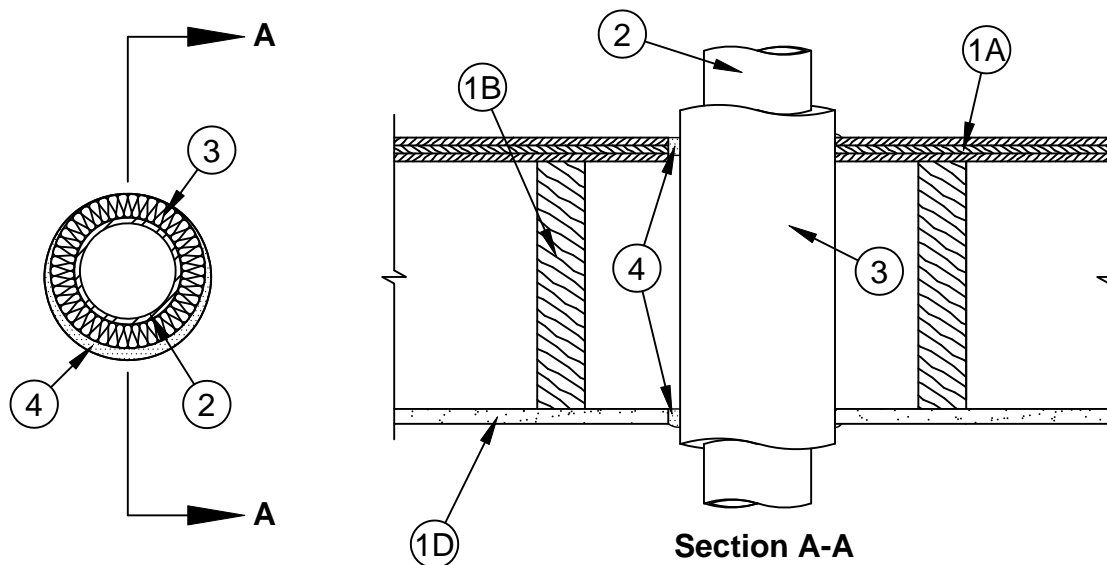


## System No. F-C-5029

F Rating - 1 Hr

T Ratings - 3/4 & 1 Hr (See Item 3)



1. **Floor-Ceiling Assembly** - The fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction details of the floor-ceiling assembly are summarized below:
  - A. **Flooring System** - Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 7 in.
  - B. **Wood Joists** - Nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members\*** with bridging as required with ends firestopped.
  - C. **Furring Channels** - (Not Shown) - Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between gypsum board (Item 1D) and wood joists or furring channels as required in the individual Floor-Ceiling Design.
  - D. **Gypsum Board\*** - Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design. Max diam of ceiling opening is 7 in.
- 1.1 **Chase Wall** - (Not Shown, optional) The through penetrants (Item 2) shall be routed through the fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - A. **Studs** - Nom 2 by 8 in. or double nom 2 by 6 in. lumber studs.
  - B. **Sole Plate** - Nom 2 by 8 in. or parallel 2 by 6 in. lumber plates, tightly butted.
  - C. **Top Plate** - The double top plate shall consist of two nom 2 by 8 in. or two sets of parallel 2 by 6 in. lumber plates, tightly butted. Max diam of opening is 7 in.
  - D. **Gypsum Board\*** - Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
2. **Through Penetrant** - One metallic pipe or tubing to be installed approximately midway between wood joists. 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 floor-ceiling assembly. The following types and sizes of metallic pipes or tubing may be used:
  - A. **Steel Pipe** - Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - B. **Copper Tubing** - Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.
  - C. **Copper Pipe** - Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.



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3. **Pipe Coverings\*** - One of the following types of pipe coverings shall be used:

- A. **Pipe and Equipment Covering-Materials\*** - Nom 1 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated through penetrant and periphery of opening shall be a min 0 in. (point contact) to a max 7/8 in.

See **Pipe and Equipment Covering-Materials** - (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering 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:

- B. **Pipe Covering Materials\*** - Nom 1 in. thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced max 12 in. OC. The annular space between the insulated through penetrant and periphery of opening shall be a min 0 in. (point contact) to a max 7/8 in.

**IIG MINWOOL L L C** - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc

- C. **Sheathing Material\*** - Used in conjunction with Item 3B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt tape.

See **Sheathing Materials** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing 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.

- D. **Tube Insulation - Plastics+** - (Not Shown) - Nom 1/2 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The annular space between the insulated through penetrant and periphery of opening shall be a min 0 in. (point contact) to a max 1-7/8 in.

See **Plastics+** (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

The T Rating of the firestop system is dependent upon the type of pipe covering used as tabulated below:

Type of Pipe Covering	T Rating (Hr)
Fiberglass	1
Mineral Wool	1
AB/PVC	3/4

4. **Fill, Void or Cavity Material\* - Sealant** - Min 3/4 in. thickness of fill material applied within annulus flush with top surface of floor. Min 5/8 in. thickness of fill material applied within annulus on bottom surface of ceiling or lower top plate of chase wall assembly. Additional fill material to be installed such that a min 1/8 in. bead is formed around the through penetrant on bottom surface of ceiling or lower top plate of chase wall assembly.

**SPECIFIED TECHNOLOGIES INC** - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

\*Bearing the UL Classification Marking

+Bearing the UL Recognized Component Mark



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