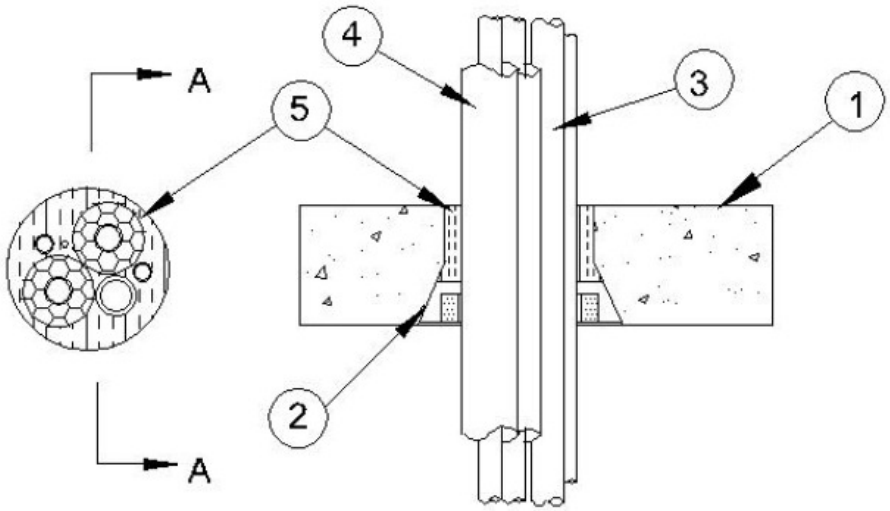
F Rating — 2 Hr
T Rating — 3/4 Hr



Section A-A

1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100150 pcf or 1600-2400 kg/m^3) concrete.

2. **Firestop Device* —** Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device or may project up to a max of 3-1/2 in. above top surface of floor or trimmed flush with top surface of floor in min 4-1/2 in. (114 mm) thick floors. The device shall extend a min of 1-1/2 in. (38 mm) to a max of 3-1/2 in. (89 mm) above top surface of floor in min 2-1/2 in. (64 mm) thick floors. The devices are provided in a nom 2 in. (51 mm), 4 in. (102 mm) and 6 in. (152 mm) size.
RECTORSEAL — Biostop or Rectorseal Cast -in- Place Firestop Device

3. **Through Penetrants —** Pipes, tubing or cable to be bundled within the opening. The annular space between penetrants shall be min 0 in. (point contact). The space between penetrants and periphery of opening shall be min 1/2 in. (13 mm). Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:

A. **Metallic Pipes —** A max of six pipes or tubes installed within opening. The following types and sizes of metallic pipes, conduits or tubing may be used:

a. **Copper Tubing —** Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tubing.

b. **Copper Pipe —** Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

c. **Steel Pipe —** Nom 1-1/2 in. (38 mm) diam (or smaller) schedule 40 or heavier. Steel pipe.

d. **Conduit —** Nom 1-1/2in. (38 mm) diam (or smaller) steel electric metallic tubing (EMT) or nom 1-1/2 in. (38 mm) diam (or smaller) rigid steel conduit.

B. **Cables —** A max of two, max 8/C No. 18 AWG (or smaller) thermostat cables; XLPE or PVC insulation with XLPE or PVC jacket.

4. **Pipe Coverings* —** All tubing greater than nom 1 in. (25 mm) diam shall be provided with one of the following pipe coverings.

A. **Tube Insulation-Plastics+ —** Max 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Tubing may or may not be provided on all or any copper tubes or pipes.
See **Plastics** (QMFZ2) category in the Plastics 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 94-5A may be used.

B. **Pipe and Equipment Covering Materials* —** Nom 1 in. (25 mm) thick hollow cylindrical heavy density 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. 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.

5. **Packing Material —** Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into the annular space as a permanent form. The packing material is to be installed flush with the top surface of the floor.

+Bearing the UL Recognized Component Mark

*,+ 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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