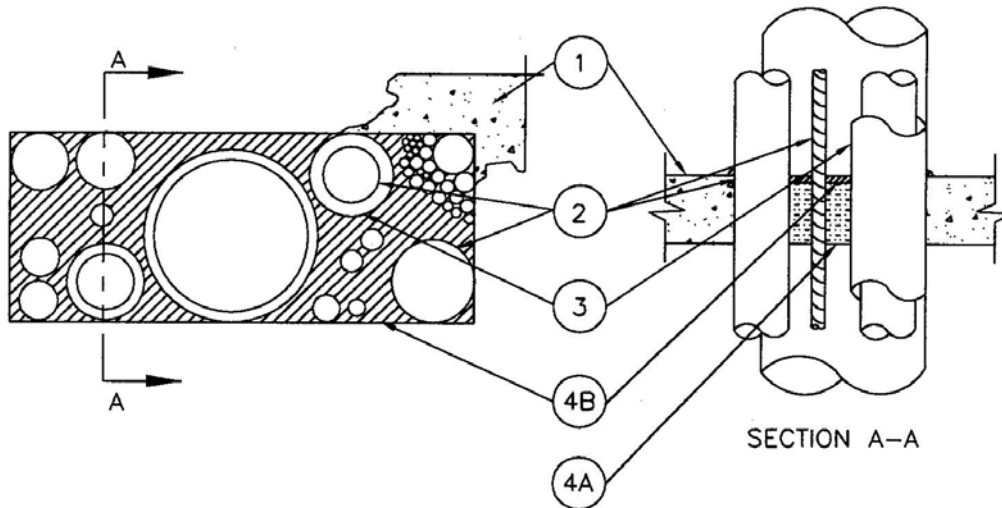




F Rating – 2 Hr
T Rating – 3/4 Hr

C-BJ-8015



1. **Floor or Wall Assembly** – Min 5 1/2 in. (140 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks**. Max size of opening is 476 sq. in. (3071 cm²) with a max. dimension of 34 in. (864 mm) or a max 24 in. (610 mm) diam.
See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants** – Penetrations installed either concentrically or eccentrically within the firestop system such that the aggregate cross-sectional area of penetrants in opening is max 58 percent the cross-sectional area of the opening in the assembly. The annular space between penetrants to be min 1/2 in. (13 mm) to max 3 in. (76 mm). The annular space between penetrants and periphery of opening shall be min 0 in. (point contact) to max 3 in. (76 mm). Penetrants to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used:
 - A. **Metallic Penetrations** – The following types and sizes of metallic pipes, conduits or tubing may be used:
 - A1. **Steel Pipe** – Nom 12 in. (305 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
 - A2. **Steel Pipe** – Nom. 4 in. (102 mm) diam. (or smaller) Schedule 5 (or heavier) steel pipe
 - A3. **Iron Pipe** – Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
 - A4. **Copper Pipe** – Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - A5. **Copper Tubing** – Nom 6 in. (152 mm) diam (or smaller) Type M (or heavier) copper tubing.
 - A6. **Steel Conduit** – Nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing (EMT) or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
 - A7. **Stainless Steel Pipe** – Nom 6 in. (152 mm) diam (or smaller) Schedule 5 (or heavier) stainless steel pipe.

- B. **Nonmetallic Penetrants** – For use in closed (process or supply) piping systems. The following types and sizes of nonmetallic pipes, conduit or tubing may be used:
- B1. **Polyvinyl Chloride (PVC) Pipe** – Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid core PVC pipe.
 - B2. **Chlorinated Polyvinyl (CPVC) Pipe** – Nom 2 in. (51 mm) diam (or smaller) SDR17 CPVC pipe.
 - B3. **Cross-linked Polyethylene (PEX) Tubing** – Nom 1-1/2 in. (38 mm) diam (or smaller) SDR9 PEX tubing.
 - B4. **Electrical Nonmetallic Tubing++** – Nom 2 in. (51 mm) diam (or smaller) corrugated wall ENT constructed of polyvinyl chloride (PVC) installed in accordance with the National Electrical Code (NFPA No. 70.)
- C. **Cables** – Any combination of the following types and sizes of cables may be used:
- C1. 4/0 (or smaller) bare or aluminum copper ground
 - C2. Max 3/C No. 6 AWG (or smaller) copper or aluminum armored cable conductors with PVC insulation.
 - C3. Max 3/C No. 14 AWG (or smaller) TEK cable with PVC insulation with or without PVC jacket.
 - C4. Max 25 pair AWG (or smaller) telephone cable with PVC insulation and jacket.
 - C5. Max 3/C 500 kcmil (or smaller) aluminum or copper cable with PVC jacket and insulation.
 - C6. Max 3/C No. 18 AWG copper cable with PVC jacket and insulation.
3. **Pipe Covering – (Optional)** – The following types or pipe insulation may be used with nom 4 in. (102 mm) diam or smaller pipes and tubing.
- A. **Pipe Covering** – Max 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) 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.
 - B. **Tube Insulation – Plastics+ – (Optional)** – Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.
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.
4. **Firestop System** – The firestop system shall consist of the following:
- A. **Packing Material** – Min 5 in. (127 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.
 - B. **Fill, Void or Cavity Material* – Sealant** – Min 1/2 in. (13 mm) thickness of fill material applied within annulus, flush with top surface of floor or both surfaces of wall. Sealant to be forced into interstices of cables to max extent possible. At point contact location between penetrant and periphery of opening, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/penetrant interface on top surface of floor assembly or both surfaces of wall assembly.

Passive Fire Protection Partners – 3600EX

* Bearing the UL Classification Marking

+ Bearing the UL Classification Mark

++ Bearing the UL Listing Mark