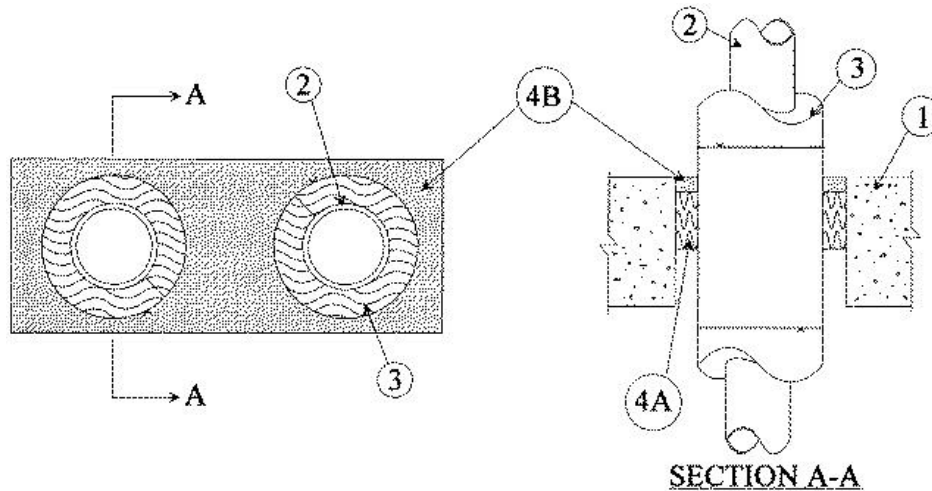


F Rating — 3 Hr
T Rating — 1 Hr



1. **Floor or Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening is 96 sq in. with max dimension of 16 in. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Copper Tubing** — Nom 3 in. diam (or smaller) Type M (or heavier) copper tube. Copper tubing to be rigidly supported on both sides of floor or wall assembly.

3. **Pipe Covering Materials*** — Nom 1 in. thick unfaced mineral fiber pipe insulation having a nom density of 10.0 pcf (or heavier) sized to the outside diam of pipe or tube. Pipe insulation secured with min 18 AWG steel wire spaced max 6 in. OC and 3 in. from each side of butted seams. A clearance of min 1 in. to max of 2-1/4 in. is required between adjacent insulated copper tubes or pipes within the firestop system. An annular space of min 1/2 in. to max of 2-1/4 in. is required within the firestop system.

INDUSTRIAL INSULATION GROUP L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc

4. **Firestop System** — The firestop system shall consist of the following:

A. **Packing Material** — Min 2 in. thickness of min 4 pcf 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 as required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material*** — **Caulk** — Min 1/2 in. thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

RECTORSEAL — [Metacaulk 950](#)

*,+ 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