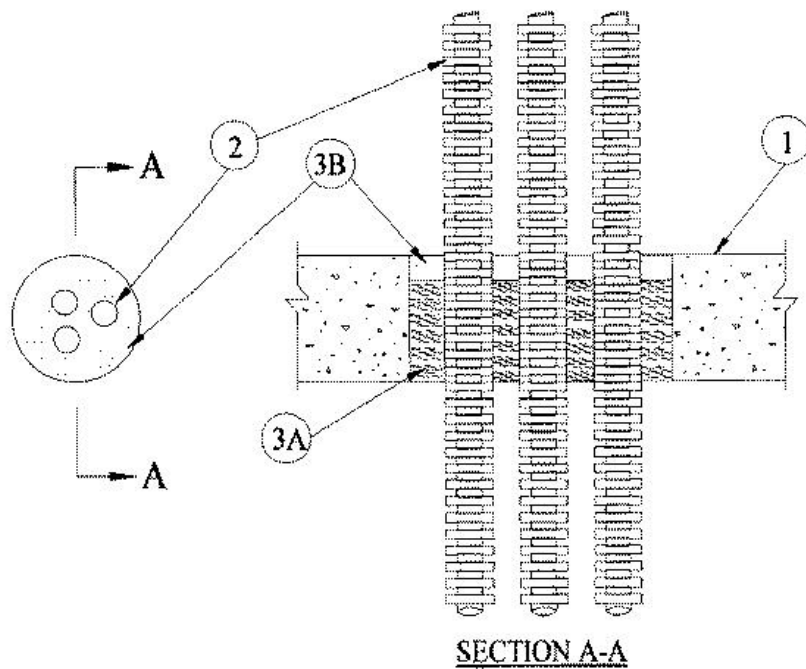


F Rating — 2 Hr  
T Rating — 1-1/2 Hr



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 diam of opening is 4 in. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Nonmetallic Penetrants** — A max of three nonmetallic penetrants may be installed within the opening. Min separation between nonmetallic penetrants is 1/2 in. The annular space between nonmetallic penetrant and periphery of opening shall be min 5/8 in. to max 1-3/4 in. Through-penetrant shall be rigidly supported on both sides of floor or wall assembly. Any combination of the following types and sizes of nonmetallic penetrants may be used:

A. **Electrical Nonmetallic Tubing (ENT)+** — Nom 1 in. diam (or smaller) **Electrical Nonmetallic Tubing**. ENT installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70). See **Electrical Nonmetallic Tubing** (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.

B. **Optical Fiber Raceways+** — Nom 1 in. diam (or smaller) **Optical Fiber Raceways**. Optical fiber raceway installed in accordance with Article 770 of the National Electrical Code (NFPA No. 70). See **Optical Fiber Raceway** (QAZM) category in the Electrical Construction Material Directory for names of manufacturers.

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

A. **Packing Material** — Min 3-1/2 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 either surface of wall as required to accommodate the required thickness of fill material.

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

**RECTORSEAL** — [Metacaulk 1000](#)

\*,+ 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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