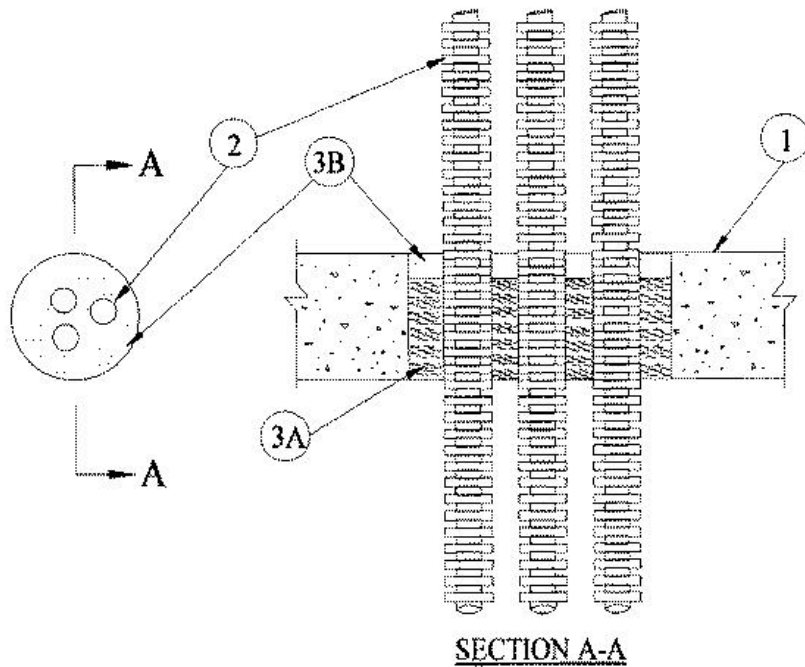


F Rating — 2 Hr
T Rating — 1-1/2 Hr



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.

Reprinted from the Online Certifications Directory with permission from UL. ©UL LLC