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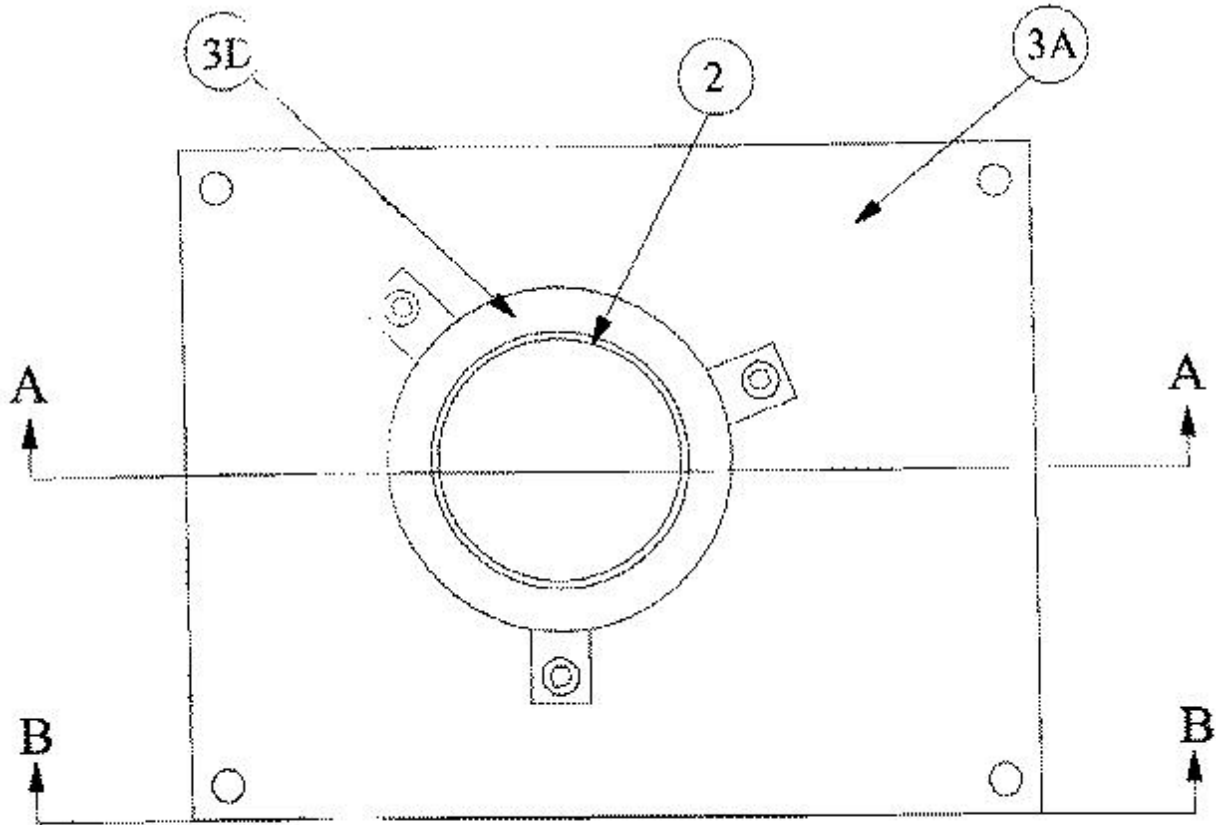


## System No. F-A-2070

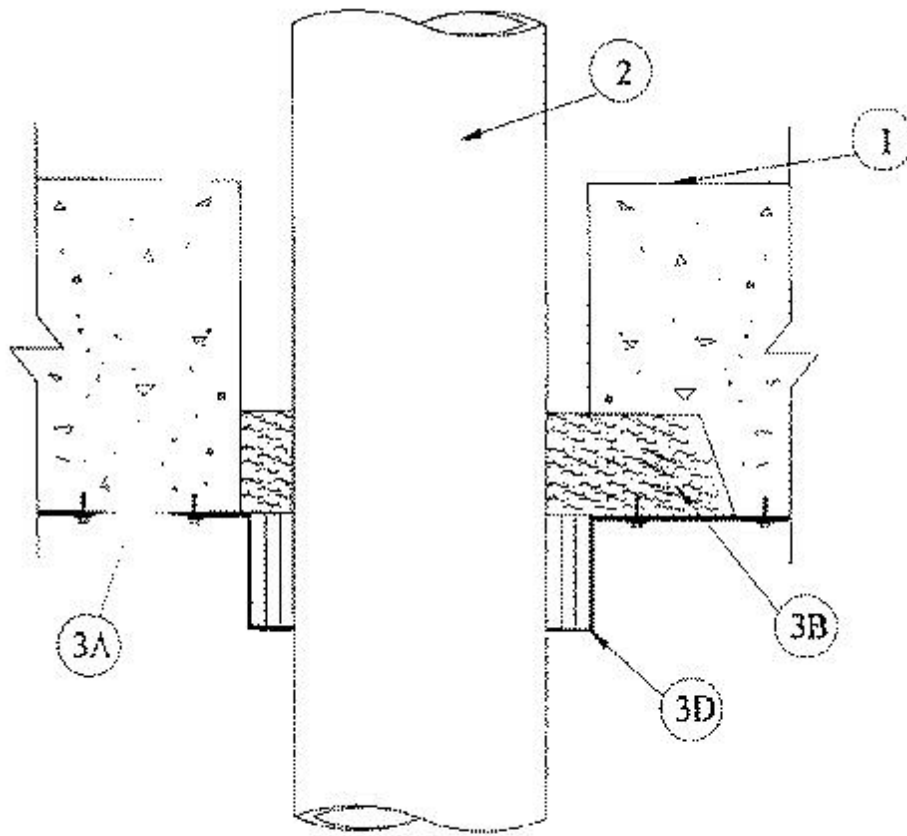
December 05, 2000

F Rating — 2 Hr

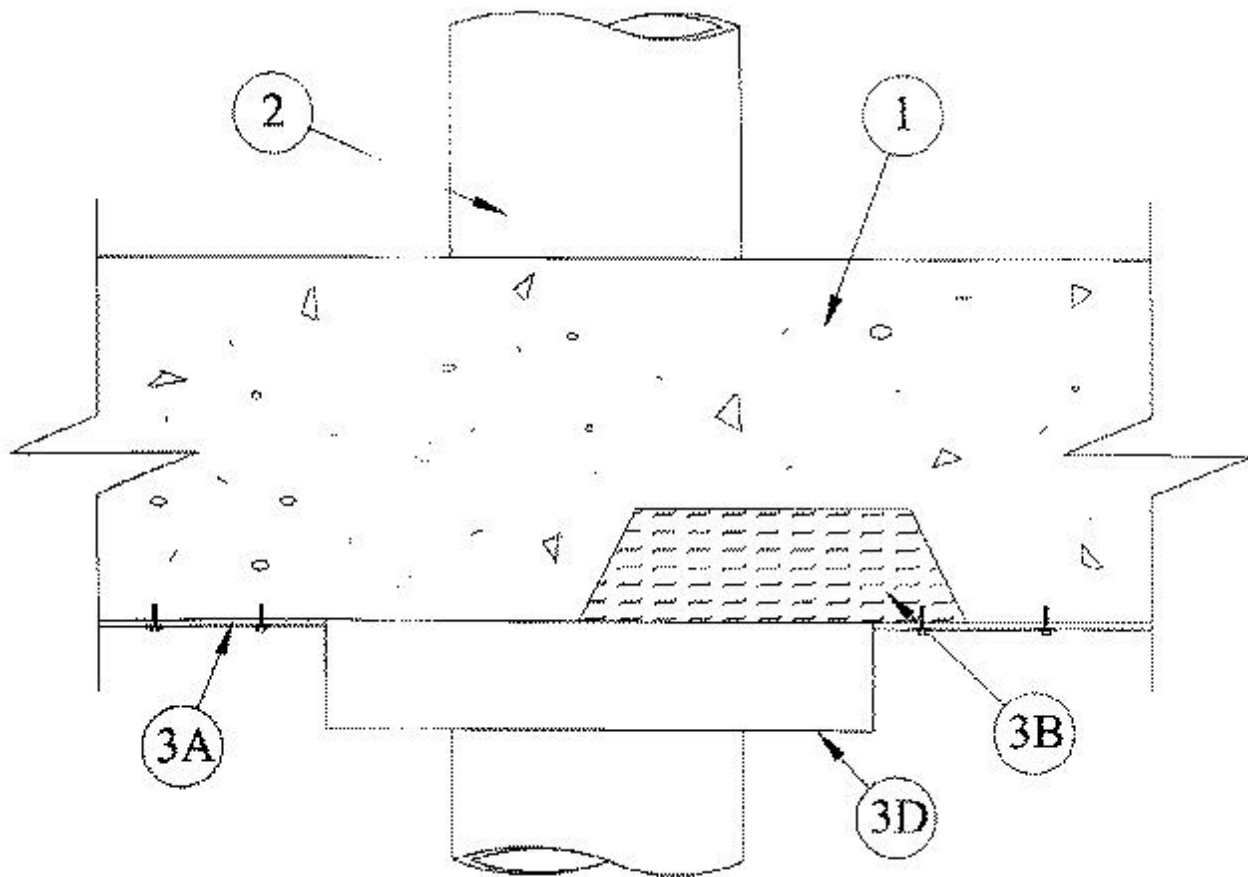
T Ratings — 1 and 1-1/2 Hr (See Item 3)



BOTTOM VIEW



SECTION A-A



SECTION B-B

1. **Floor Assembly** — The fire-rated unprotected concrete and steel floor assembly shall be constructed of the material and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. **Concrete** — Min 2-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete.

B. **Welded Wire Fabric** — 6 x 6 - W1.4 x W1.4.

C. **Steel Floor and Form Units\*** — Composite or noncomposite 3 in. deep fluted galv units as specified in the individual Floor-Ceiling design. Diam of opening through floor shall be 1/2 to 5/8 in. larger than the outside diam of the through penetrant (Item 2). Max diam of opening core-drilled through floor assembly is 5 in.

2. **Through Penetrants** — One nonmetallic pipe to be centered within the firestop system. The annular space between pipe and periphery of opening shall be min 1/4 in. to max 5/16 in. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes may be used.

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 4 in. diam (or smaller) SDR 17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. **Firestop System** — The details of the firestop systems shall be as follows:

A. **Metal Plate Enclosure** — Min 12 by 12 by 0.024 in. thick galv steel plate. Width of plate to extend a min of 3 in. beyond both sides of opening. Length of plate (transverse to steel floor unit direction) to extend to steel floor unit valley beyond each side of core-drilled hole with a min lap of 2-1/4 in. on the floor unit valley at each end. Circular cutout in plate to be 1/4 in. larger than the outside diameter of the through penetrant. Max diam of opening to be 4-3/4 in. Plate installed without cutting or slitting and secured to valley of floor units using min 1/4 in. diam by 1-1/4 in. long steel expansion bolts or steel Tapcon® concrete anchors. Fasteners to be located approximately 1/2 in. from edges of plate at each corner, at each plate/valley intersection and at max 11 in. OC along width.

B. **Packing Material** — Mineral wool batt insulation having min density of 4 pcf, firmly packed into flutes of steel floor units above metal plate enclosure to completely fill cavities. When mineral wool packing material is used, T Rating is 1 hr.

C. **Fill, Void or Cavity Materials\* — Mortar** — (Not Shown) —As an alternate to Item 3B, fill material trowelled into flutes of steel floor units above metal plate enclosure to completely fill cavities. Material to be mixed with water in accordance with the mixing instructions on the bag. When mortar is used, T Rating is 1-1/2 hr.

**RECTORSEAL** — Bio K10+ Mortar

D. **Firestop Device\*** — Galv steel collar lined with an intumescent material sized to fit specific diam of the through penetrant. Device to be installed around through penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to underside of the metal plate enclosure. Device secured at each tab. Where anchor tabs are beneath the valley or the steel deck or the mortar, the anchor tabs are to be secured with min 1/4 in. diam by 1-1/4 in. long steel expansion bolts or steel Tapcon® concrete anchors in conjunction with min 5/16 by 5/8 in. diam washers. Where anchor tabs are beneath the packing material, the anchor tabs are to be secured with min 1/4 in. diam by 1-1/4 in. long self-drilling, self-tapping steel sheet metal screws in conjunction with min 5/16 by 5/8 in. diam washers.

**RECTORSEAL** — Biostop Pipe Collar

\*Bearing the UL Classification Mark