ARTICLE 372

Cellular Concrete Floor Raceways

Part I. General

372.1 Scope. This article covers cellular concrete floor raceways, the hollow spaces in floors constructed of precast cellular concrete slabs, together with suitable metal fittings designed to provide access to the floor cells.

Cellular concrete floor raceways are a form of floor deck construction commonly used in high-rise office buildings. This construction method is very similar in design, application, and adaptation to cellular metal floor raceways. Basically, this wiring method consists of floor cells (that are part of the structural floor system), header ducts laid at right angles to the cells (used to carry conductors from cabinets to cells), and junction boxes.

Part II. Installations

372.12 Uses Not Permitted. Conductors shall not be installed in precast cellular concrete floor raceways as follows:

(1) Where subject to corrosive vapor
(2) In any hazardous (classified) location, except as permitted by other articles in this *Code*
(3) In commercial garages, other than for supplying ceiling outlets or extensions to the area below the floor but not above

Informational Note: See 300.8 for installation of conductors with other systems.

372.18 Cellular Concrete Floor Raceways Installation. Installation of cellular concrete floor raceways shall comply with 372.18(A) through (E).

(A) Header. The header shall be installed in a straight line at right angles to the cells. The header shall be mechanically secured to the top of the precast cellular concrete floor. The end joints shall be closed by a metal closure fitting and sealed against the entrance of concrete. The header shall be electrically continuous throughout its entire length and shall be electrically bonded to the enclosure of the distribution center.

(B) Connection to Cabinets and Other Enclosures. Connections from headers to cabinets and other enclosures shall be made by means of listed metal raceways and listed fittings.

(C) Junction Boxes. Junction boxes shall be leveled to the floor grade and sealed against the free entrance of water or concrete. Junction boxes shall be of metal and shall be mechanically and electrically continuous with the header.

(D) Inserts. Inserts shall be leveled and sealed against the entrance of concrete. Inserts shall be of metal and shall be fitted with grounded-type receptacles. An equipment grounding conductor or bonding jumper shall connect the insert receptacles to a positive ground connection provided on the header. Where cutting through the cell wall for setting inserts or other purposes (such as providing access openings between header and cells), chips and other dirt shall not be allowed to remain in the raceway, and the tool used shall be designed so as to prevent the tool from entering the cell and damaging the conductors.

(E) Markers. A suitable number of markers shall be installed for the future location of cells.

372.20 Size of Conductors. No conductor larger than 1/0 AWG shall be installed, except by special permission.

372.22 Maximum Number of Conductors. The combined cross-sectional area of all conductors or cables shall not exceed 40 percent of the cross-sectional area of the cell or header.

372.23 Ampacity of Conductors. The ampacity adjustment factors as provided in 310.15(C) shall apply to conductors installed in cellular concrete floor raceways.

372.56 Splices and Taps. Splices and taps shall be made only in header access units or junction boxes. A continuous unbroken conductor connecting the individual outlets is not a splice or tap.

372.58 Discontinued Outlets. When an outlet is abandoned, discontinued, or removed, the sections of circuit conductors supplying the outlet shall be removed from the raceway. No splices or reinsulated conductors, such as would be the case of abandoned outlets on loop wiring, shall be allowed in raceways.

ARTICLE 374

Cellular Metal Floor Raceways

Part I. General

374.1 Scope. This article covers the use and installation requirements for cellular metal floor raceways.

Cellular metal floor raceways, as shown in Exhibit 374.1, are a listed raceway system that is a form of metal floor deck construction designed for use in steel-frame buildings and consist of sheet metal formed into shapes that are combined to form cells or raceways. The cells extend across the building and, depending on the structural strength required, can have various shapes and sizes. ANSI/UL 209, *Standard for Cellular Metal Floor Raceways and Fittings*, provides the construction, performance, and marking requirements for this equipment.

Connections to the cells are made by means of headers extending across the cells and connecting only to those cells to be used as raceways for the conductors. Two or three separate headers, connecting to different sets of cells, may be used for