installation. The conductors, including splices and taps, shall not fill more than 75 percent of the raceway area at that point.

390.57 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 with abandoned outlets on loop wiring, shall be allowed in raceways.

390.70 Laid in Straight Lines. Underfloor raceways shall be laid so that a straight line from the center of one junction box to the center of the next junction box coincides with the centerline of the raceway system. Raceways shall be firmly held in place to prevent disturbing this alignment during construction.

390.71 Markers at Ends. A suitable marker shall be installed at or near each end of each straight run of raceways to locate the last insert.

390.73 Dead Ends. Dead ends of raceways shall be closed.

390.74 Junction Boxes. Junction boxes shall be leveled to the floor grade and sealed to prevent the free entrance of water or concrete. Junction boxes used with metal raceways shall be metal and shall be electrically continuous with the raceways.

390.75 Inserts. Inserts shall be leveled and sealed to prevent the entrance of concrete. Inserts used with metal raceways shall be metal and shall be electrically continuous with the raceway. Inserts set in or on fiber raceways before the floor is laid shall be mechanically secured to the raceway. Inserts set in fiber raceways after the floor is laid shall be screwed into the raceway. When cutting through the raceway wall and setting inserts, chips and other dirt shall not be allowed to remain in the raceway, and tools shall be used that are designed so as to prevent the tool from entering the raceway and damaging conductors that may be in place.

390.76 Connections to Cabinets and Wall Outlets. Connections from underfloor raceways to distribution centers and wall outlets shall be made by approved fittings or by any of the wiring methods in Chapter 3, where installed in accordance with the respective articles.

ARTICLE 392

Cable Trays

Part I. General

392.1 Scope. This article covers cable tray systems, including ladder, ventilated trough, ventilated channel, solid bottom, and other similar structures.

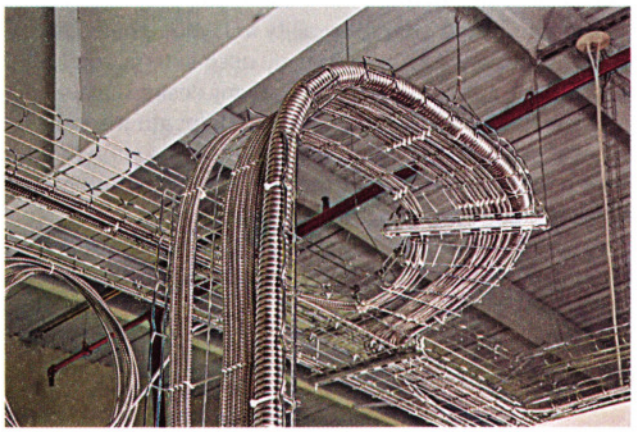

EXHIBIT 392.1 Type MC cable installed in a cable tray. *(Courtesy of Legrand®)*

Informational Note: See ANSI/NEMA–VE 1-2017, *Metal Cable Tray Systems*, and NECA/NEMA 105-2015, *Standard for Installing Metal Cable Tray Systems*, for further information on cable trays.

Cable trays are mechanical support systems and not raceways. See the definition of *raceway* in Article 100. Cable tray installations are typically an industrial-type wiring method. However, they are sometimes installed in commercial facilities as a wire-and-cable management system for telecommunications/data installations and for feeder and branch-circuit wiring. Exhibit 392.1 is one example of Type MC cable installed in a wire mesh-type cable tray.

Part II. Installation

392.10 Uses Permitted. Cable tray shall be permitted to be used as a support system for wiring methods containing service conductors, feeders, branch circuits, communications circuits, control circuits, and signaling circuits. Single insulated cables and single insulated conductors shall be permitted in cable tray only when installed in accordance with 392.10(B)(1). Cable tray installations shall not be limited to industrial establishments. Where exposed to direct rays of the sun, insulated conductors and jacketed cables shall be identified as being sunlight resistant. Cable trays and their associated fittings shall be identified for the intended use.

(A) Wiring Methods. The wiring methods in Table 392.10(A) shall be permitted to be installed in cable tray systems under the conditions described in their respective articles and sections.

Metal cable trays can be used in other spaces used for environmental air (plenums) to support recognized wiring methods permitted in those spaces. Metal cable trays are not the limiting factor; rather, the cable or wiring method is.