equipment. Class 1 remote-control circuits also can be used as shunt-trip circuits for circuit breakers.

N 724.3 Other Articles. In addition to the requirements of this article, circuits and equipment shall comply with 724.3(A) through (J).

N (A) Number and Size of Conductors in Raceway. The number and size of conductors shall comply with 300.17.

N (B) Spread of Fire or Products of Combustion. Installation of Class 1 circuits shall comply with 300.21.

N (C) Ducts, Plenums, and Other Air-Handling Spaces. Class 1 circuits installed in ducts, plenums, and other spaces used for environmental air shall comply with 300.22.

N (D) Hazardous (Classified) Locations. Class 1 circuits shall not be installed in any hazardous (classified) locations except as permitted by other articles of this *Code*.

N (E) Cable Trays. Cable tray installations shall comply with Parts I and II of Article 392.

N (F) Raceways Exposed to Different Temperatures. Installation of raceways shall comply with 300.7(A).

Condensation often forms in conduits that are exposed to different temperatures, such as a walk-in refrigerator or an air-conditioned area to a space that is warmer. Section 724.3(F) brings the requirements of 300.7(A) into Article 724.

See also

300.7(A) and its associated commentary

N (G) Vertical Support for Fire-Rated Cables and Conductors. Vertical installations of circuit integrity (CI) cables and conductors installed in a raceway or conductors and cables of electrical circuit protective systems shall comply with 300.19.

N (H) Bushings. Bushings shall be installed where cables emerge from raceways used for mechanical support or protection in accordance with 300.15(C).

N (I) Installation of Conductors With Other Systems. Installation of conductors with other systems shall comply with 300.8.

N (J) Identification of Equipment Grounding Conductors. Equipment grounding conductors shall be identified in accordance with 250.119.

N 724.21 Access to Electrical Equipment Behind Panels Designed to Allow Access. Access to electrical equipment shall not be denied by an accumulation of wires and cables preventing the removal of panels, including suspended ceiling panels.

An excess accumulation of wires and cables can limit access to electrical equipment by preventing the removal of access panels or ceiling panels. To safely service, rearrange, or install electrical equipment, the worker must have accessible workspace. See Exhibit 724.1.

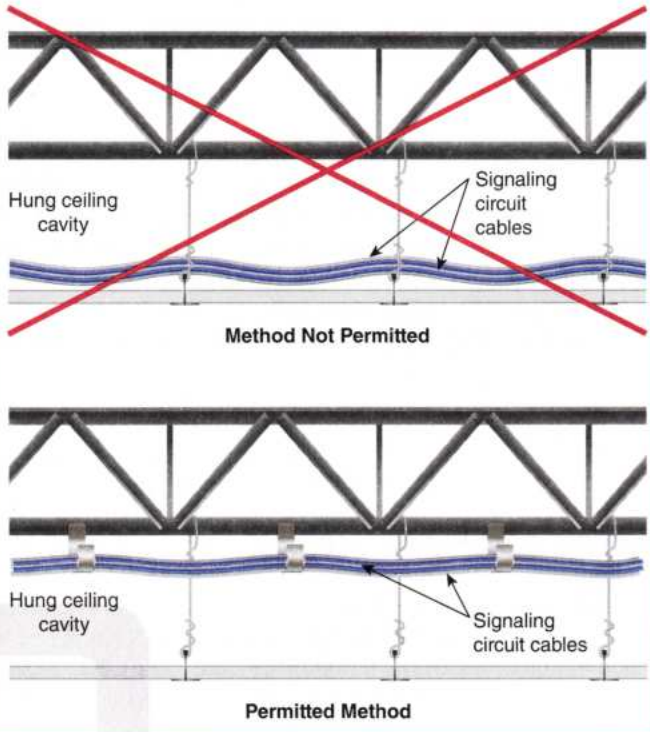

EXHIBIT 724.1 Incorrect cable installation *(upper diagram)* and correct method *(lower diagram)*.

See also

300.11(B), which permits the use of support wires and approved fittings that are independent of the suspended ceiling support wires

N 724.24 Mechanical Execution of Work. Class 1 circuits shall be installed in a neat and workmanlike manner. Cables and conductors installed exposed on the surfaces of ceilings and sidewalls shall be supported by the building structure such that the cable will not be damaged by normal building use. Such cables shall be supported by straps, staples, hangers, cable ties, or similar fittings that are designed and installed to not damage the cable. The installation shall also comply with the requirements of 300.4 and 300.11.

Informational Note: Paint, plaster, cleaners, abrasives, corrosive residues, or other contaminants can result in an undetermined alteration of Class 1 cable properties.

Cable must be attached to or supported by the building structure by cable ties, straps, clamps, hangers, and so forth. The installation method must not damage the cable. In addition, the location of the cable should be carefully evaluated to ensure that activities and processes within the building do not cause damage to the cable. (See Exhibit 724.1.)

Section 300.4(D) requires protection of cables that are installed on framing members. Such cables are required to be installed in a manner that protects them from nail or screw penetration. This section permits attachment to baseboards and non-load-bearing walls, which are not structural components.