(2) Indoors. Nonmetallic auxiliary gutters shall be permitted to be installed indoors.

N **(C) Extended Distance of Auxiliary Gutters.** Auxiliary gutters shall be permitted to extend a distance not greater than 9 m (30 ft) beyond the equipment that it supplements.

Exception: Where used in accordance with 620.35 for elevators, an auxiliary gutter shall be permitted to extend a distance greater than 9 m (30 ft) beyond the equipment it supplements.

Δ **366.12 Uses Not Permitted.** Auxiliary gutters shall not be used to enclose switches, overcurrent devices, appliances, or other similar equipment.

366.20 Conductors Connected in Parallel. Where single conductor cables comprising each phase, neutral, or grounded conductor of an alternating-current circuit are connected in parallel as permitted in 310.10(G), the conductors shall be installed in groups consisting of not more than one conductor per phase, neutral, or grounded conductor to prevent current imbalance in the paralleled conductors due to inductive reactance.

366.22 Number of Conductors.

No limit is placed on the size of conductors that can be installed in an auxiliary gutter. If the auxiliary gutter is being used to supplement the wiring "gutter" space of a panelboard cabinet, the wire-bending requirements of 312.6(A) and (B) apply total wiring space created by adding the width of the auxiliary gutter to the width of the wire-bending space of the panelboard cabinet. The dimensions of insulated conductors, found in Tables 5 and 5A of Chapter 9, can be used to calculate the size of auxiliary gutters.

(A) Sheet Metal Auxiliary Gutters. The sum of the cross-sectional areas of all contained conductors and cables at any cross section of a sheet metal auxiliary gutter shall not exceed 20 percent of the interior cross-sectional area of the sheet metal auxiliary gutter.

(B) Nonmetallic Auxiliary Gutters. The sum of cross-sectional areas of all contained conductors and cables at any cross section of the nonmetallic auxiliary gutter shall not exceed 20 percent of the interior cross-sectional area of the nonmetallic auxiliary gutter.

366.23 Ampacity of Conductors.

(A) Sheet Metal Auxiliary Gutters. The adjustment factors in 310.15(C)(1) shall be applied only where the number of current-carrying conductors, including neutral conductors classified as current-carrying under 310.15(E), exceeds 30 at any cross section of the sheet metal auxiliary gutter. Conductors for signaling circuits or controller conductors between a motor and its starter and used only for starting duty shall not be considered as current-carrying conductors. The current carried continuously in bare copper bars in sheet metal auxiliary gutters shall not exceed 1.55 amperes/mm^2 (1000 amperes/in.^{2}) of cross section of the conductor. For aluminum bars, the current carried continuously shall not exceed 1.09 amperes/mm^2 (700 amperes/in.^{2}) of cross section of the conductor.

Where sheet metal auxiliary gutters contain 30 or fewer current-carrying conductors, the correction factors in 310.15(B)(2) do not apply. However, if more than 30 conductors are installed in the same cross-sectional area of a sheet metal auxiliary gutter, the ampacity adjustment factors of 310.15(C)(1) apply, and the number of current-carrying conductors is not limited up to the 20-percent fill.

(B) Nonmetallic Auxiliary Gutters. The adjustment factors specified in 310.15(C)(1) shall be applicable to the current-carrying conductors up to and including the 20 percent fill specified in 366.22(B).

The requirements for nonmetallic auxiliary gutters limit the cross-sectional area of all conductors to 20 percent. There is no 30-conductor allowance. The derating factors specified in 310.15(C)(1) must be applied as stated in 366.23(B).

366.30 Securing and Supporting.

(A) Sheet Metal Auxiliary Gutters. Sheet metal auxiliary gutters shall be supported and secured throughout their entire length at intervals not exceeding 1.5 m (5 ft).

(B) Nonmetallic Auxiliary Gutters. Nonmetallic auxiliary gutters shall be supported and secured at intervals not to exceed 900 mm (3 ft) and at each end or joint, unless listed for other support intervals. In no case shall the distance between supports exceed 3 m (10 ft).

366.44 Expansion Fittings. Expansion fittings shall be installed where expected length change, due to expansion and contraction due to temperature change, is more than 6 mm (0.25 in.).

See also

Table 352.44(A) for expansion characteristics of nonmetallic gutters similar to those of polyvinyl chloride (PVC) conduit

300.7(B) commentary for more on expansion requirements

366.56 Splices and Taps. Splices and taps shall comply with 366.56(A) through (D).

(A) Within Gutters. Splices or taps shall be permitted within gutters where they are accessible by means of removable covers or doors. The conductors, including splices and taps, shall not fill the gutter to more than 75 percent of its area.

(B) Bare Conductors. Taps from bare conductors shall leave the gutter opposite their terminal connections, and conductors shall not be brought in contact with uninsulated current-carrying parts of different voltages.

(C) Suitably Identified. All taps shall be suitably identified at the gutter as to the circuit or equipment that they supply.