

Δ **TABLE 240.3** Other Articles

Equipment	Article
Air-conditioning and refrigerating equipment	440
Appliances	422
Assembly occupancies	518
Audio signal processing, amplification, and reproduction equipment	640
Branch circuits	210
Busways	368
Capacitors	460
Class 1 power-limited circuits and Class 1 power-limited remote-control and signaling circuits	724
Class 2 and Class 3 remote-control, signaling, and power-limited circuits	725
Cranes and hoists	610
Electric signs and outline lighting	600
Electric welders	630
Electrolytic cells	668
Elevators, dumbwaiters, escalators, moving walks, wheelchair lifts, and stairway chairlifts	620
Emergency systems	700
Fire alarm systems	760
Fire pumps	695
Fixed electric heating equipment for pipelines and vessels	427
Fixed electric space-heating equipment	424
Fixed outdoor electric deicing and snow-melting equipment	426
Generators	445
Health care facilities	517
Induction and dielectric heating equipment	665
Industrial machinery	670
Luminaires, lampholders, and lamps	410
Motion picture and television studios and similar locations	530
Motors, motor circuits, and controllers	430
Phase converters	455
Pipe organs	650
Receptacles	406
Services	230
Solar photovoltaic systems	690
Switchboards, switchgear, and panelboards	408
Theaters, audience areas of motion picture and television studios, and similar locations	520
Transformers and transformer vaults	450
X-ray equipment	660

against overcurrent in accordance with their ampacities specified in 310.14, unless otherwise permitted or required in 240.4(A) through (H).

Informational Note: See ICEA P-32-382-2018, *Short Circuit Characteristics of Insulated Cables*, for information on allowable short-circuit currents for insulated copper and aluminum conductors.

(A) Power Loss Hazard. Conductor overload protection shall not be required where the interruption of the circuit would create a hazard, such as in a material-handling magnet circuit or fire pump circuit. Short-circuit protection shall be provided.

Informational Note: See NFPA 20-2019, *Standard for the Installation of Stationary Pumps for Fire Protection*.

(B) Overcurrent Devices Rated 800 Amperes or Less. The next higher standard overcurrent device rating (above the ampacity of the conductors being protected) shall be permitted to be used, provided all of the following conditions are met:

- (1) The conductors being protected are not part of a branch circuit supplying more than one receptacle for cord-and-plug-connected portable loads.
- (2) The ampacity of the conductors does not correspond with the standard ampere rating of a fuse or a circuit breaker without overload trip adjustments above its rating (but that shall be permitted to have other trip or rating adjustments).
- (3) The next higher standard rating selected does not exceed 800 amperes.

If the overcurrent protective device is an adjustable trip device installed in accordance with 240.4(B)(1), (B)(2), and (B)(3), it shall be permitted to be set to a value that does not exceed the next higher standard value above the ampacity of the conductors being protected as shown in Table 240.6(A) where restricted access in accordance with 240.6(C) is provided.

Table 240.6(A) lists the standard ratings of overcurrent devices. Where the ampacity of the conductor specified in Article 310 does not match the rating of the standard overcurrent device, 240.4(B) permits the use of the next larger standard overcurrent device. All three conditions must be met for this permission to apply. For example, in Table 310.16, the ampacity for 3 AWG, 75°C copper, Type THWN, is listed as 100 amperes. That conductor would have to be protected by an overcurrent protective device (OCPD) rated not more than 100 amperes unless otherwise permitted in 240.4(E), (F), or (G).

Section 240.4(B) does not modify or change the allowable ampacity of the conductor — it serves only to provide a reasonable increase in the permitted OCPD rating where the allowable ampacity and the standard OCPD ratings do not correspond.

For example, a 500-kcmil THWN copper conductor has an allowable ampacity of 380 amperes, specified in Table 310.16. This conductor can supply a load not exceeding 380 amperes and, in accordance with 240.4(B), can be protected by a 400-ampere OCPD.

Application of 310.12 is permitted only for single-phase, 120/240-volt, residential services and feeder conductors that supply the entire load of the dwelling unit. The service and main power feeder loads permitted to be supplied by the conductor types and sizes exceed the conductor ampacities for the same conductor types and sizes specified in Table 310.16. The overcurrent protection for these residential supply conductors is also permitted to be based on the increased rating allowed by 310.12. The increased ratings are based on the significant diversity inherent to most dwelling unit loads and the fact that only the two ungrounded service or feeder conductors are considered to be current carrying.