

Δ **TABLE 225.3** Other Articles

Equipment/Conductors	Article
Branch circuits	210
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
Conductors for general wiring	310
Electrically driven or controlled irrigation machines	675
Electric signs and outline lighting	600
Feeders	215
Fire alarm systems	760
Fixed outdoor electric deicing and snow-melting equipment	426
Grounding and bonding	250
Hazardous (classified) locations	500
Hazardous (classified) locations — specific	510
Marinas and boatyards	555
Medium-voltage conductors and cable	311
Messenger-supported wiring	396
Mobile homes, manufactured homes, and mobile home parks	550
Open wiring on insulators	398
Over 1000 volts, general	495
Overcurrent protection	240
Overcurrent protection for systems rated over 1000 volts ac, 1500 volts dc	245
Services	230
Services, feeders, and branch circuits over 1000 volts ac, 1500 volts dc	235
Solar photovoltaic systems	690
Swimming pools, fountains, and similar installations	680
Use and identification of grounded conductors	200

225.6 Conductor Size and Support.

- Δ **(A) Overhead Spans.** Open individual conductors shall not be smaller than 10 AWG copper or 8 AWG aluminum for spans up to 15 m (50 ft) in length, and 8 AWG copper or 6 AWG aluminum for a longer span unless supported by a messenger wire.

The size limitation of copper and aluminum conductors for overhead spans is based on the need for adequate mechanical strength to support the weight of the conductors and to withstand wind, ice, and other similar conditions. Exhibit 225.1 illustrates overhead spans that are not messenger supported, are run between buildings, and are 1000 volts or less. The messenger cable provides the necessary mechanical strength rather than relying on the conductors.

See also

396.10 for cable types permitted to be messenger supported

(B) Festoon Lighting. Overhead conductors for festoon lighting shall not be smaller than 12 AWG unless the conductors are supported by messenger wires. In all spans exceeding 12 m (40 ft), the conductors shall be supported by messenger wire. The messenger wire shall be supported by strain insulators.

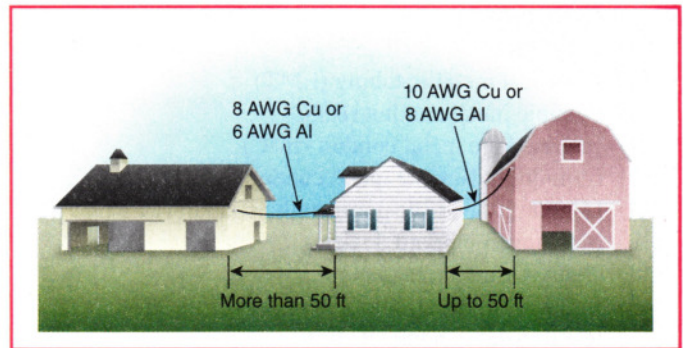


EXHIBIT 225.1 Minimum sizes of conductors in overhead cable spans for 1000 volts, nominal, or less.

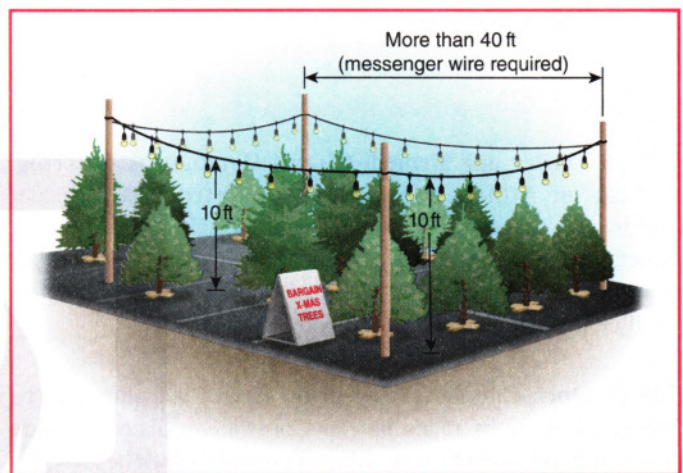


EXHIBIT 225.2 Messenger wire required for festoon lighting conductors in a span exceeding 40 feet.

Conductors or messenger wires shall not be attached to any fire escape, downspout, or plumbing equipment.

Article 100 defines *festoon lighting* as “a string of outdoor lights that is suspended between two points.” Exhibit 225.2 illustrates an installation of festoon lighting that complies with the minimum clearance above-grade requirement specified in 225.18(1). The maximum distance between conductor supports is 40 feet unless a messenger wire is installed to support the current-carrying conductors.

Attachment of festoon lighting to fire escapes, plumbing equipment, or metal drain spouts is prohibited, because the attachment could provide a path to ground. Such methods of attachment could not be relied on for a permanent or secure means of support.

- Δ **225.10 Wiring on Buildings (or Other Structures).** The installation of outside wiring on surfaces of buildings (or other structures) shall be permitted for circuits not exceeding 1000 volts, nominal, as the following:

- (1) Auxiliary gutters
- (2) Busways