

(B) Wiring. Wiring from a photovoltaic panel or wiring external to the PV sign body shall be:

- (1) Listed, labeled, and suitable for photovoltaic applications
- (2) Routed to closely follow the sign body or enclosure
- (3) As short as possible and secured at intervals not exceeding 0.91 m (3 ft)
- (4) Protected where subject to physical damage

(C) Flexible Cords and Cables. Flexible cords and cables shall comply with Article 400 and be identified as extra hard usage, rated for outdoor use, and water and sunlight resistant.

(D) Grounding. Grounding a PV powered sign shall comply with Article 690, Part V and 600.7.

(E) Disconnecting Means. The disconnecting means for a PV powered sign shall comply with Article 690, Part III and 600.6.

(F) Battery Compartments. Battery compartments shall require a tool to open.

600.35 Retrofit Kits.

(A) General. A general-use or sign-specific retrofit kit for a sign or outline lighting system shall include installation instructions and requirements for field conversion of a host sign. The retrofit kit shall be listed and labeled.

See also

Article 100 for definitions of *host sign*; *retrofit kit*, *general use* (*general use retrofit kit*); and *retrofit kit*, *sign specific* (*sign specific retrofit kit*)

(B) Damaged Parts. All parts that are not replaced by a retrofit kit shall be inspected for damage. Any part found to be damaged or damaged during conversion of the sign shall be replaced or repaired to maintain the sign or outline lighting system's dry, damp, or wet location rating.

(C) Marking. The retrofitted sign shall be marked in accordance with 600.4(B).

600.41 Neon Tubing.

(A) Design. The length and design of the tubing shall not cause a continuous overcurrent beyond the design loading of the transformer or electronic power supply.

(B) Support. Tubing shall be supported by listed tube supports. The neon tubing shall be supported within 150 mm (6 in.) from the electrode connection.

(C) Spacing. A spacing of not less than 6 mm (¼ in.) shall be maintained between the tubing and the nearest surface, other than its support.

(D) Protection. Field-installed skeleton tubing shall not be subject to physical damage. Where the tubing is readily accessible to other than qualified persons, field-installed skeleton tubing

shall be provided with suitable guards or protected by other approved means.

600.42 Electrode Connections.

(A) Points of Transition. Where the high-voltage secondary circuit conductors emerge from the wiring methods specified in 600.32(A), they shall be enclosed in a listed assembly.

(B) Accessibility. Terminals of the electrode shall not be accessible to unqualified persons.

(C) Electrode Connections. Connections shall be made by use of a connection device, twisting of the wires together, or use of an electrode receptacle. Connections shall be electrically and mechanically secure and shall be in an enclosure listed for the purpose.

(D) Support. Neon secondary conductor(s) shall be supported not more than 150 mm (6 in.) from the electrode connection to the tubing.

(E) Receptacles. Electrode receptacles shall be listed.

(F) Bushings. Where electrodes penetrate an enclosure, bushings listed for the purpose shall be used unless receptacles are provided.

(G) Wet Locations. A listed cap shall be used to close the opening between neon tubing and a receptacle where the receptacle penetrates a building. Where a bushing or neon tubing penetrates a building, the opening between neon tubing and the bushing shall be sealed.

(H) Electrode Enclosures. Electrode enclosures shall be listed.

(1) Dry Locations. Electrode enclosures that are listed, labeled, and identified for use in dry, damp, or wet locations shall be permitted to be installed and used in such locations.

(2) Damp and Wet Locations. Electrode enclosures installed in damp and wet locations shall be specifically listed, labeled, and identified for use in such locations.

Informational Note: See 110.3(B) covering installation and use of electrical equipment.

ARTICLE

604

Manufactured Wiring Systems

604.1 Scope. This article applies to field-installed wiring using off-site manufactured subassemblies for branch circuits, remote-control circuits, signaling circuits, and communications circuits in accessible areas.

604.6 Listing Requirements. Manufactured wiring systems and associated components shall be listed.