

- (1) No exposed metal parts
- (2) A luminaire lamp that is suitable for use at the supplied voltage
- (3) An impact-resistant polymeric lens, luminaire body, and transformer enclosure
- (4) A transformer or power supply meeting the requirements of 680.23(A)(2) with a primary rating not over 150 V

**(B) Over the Low-Voltage Contact Limit But Not over 150 Volts.** A lighting assembly without a transformer or power supply and with the luminaire lamp(s) operating at not over 150 volts shall be permitted to be cord-and-plug-connected where the assembly is listed as an assembly for the purpose. The installation shall comply with 680.23(A)(5), and the assembly shall have the following construction features:

- (1) No exposed metal parts
- (2) An impact-resistant polymeric lens and luminaire body
- (3) A **GFCI** with open neutral conductor protection as an integral part of the assembly
- (4) The luminaire lamp permanently connected to the **GFCI** with open-neutral protection
- (5) Compliance with the requirements of 680.23(A)

**680.34 Receptacle Locations.** Receptacles shall not be located less than 1.83 m (6 ft) from the inside walls of a storable pool, storable spa, or storable hot tub. In determining these dimensions, the distance to be measured shall be the shortest path the supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, doorway with hinged or sliding door, window opening, or other effective permanent barrier.

**680.35 Storable and Portable Immersion Pools.** Storable and portable immersion pools shall additionally comply with 680.35(A) through (G).

**(A) Cord Connection for Self-Contained Storable and Portable Immersion Pools.** Self-contained storable and portable packaged immersion pools with identified integral permanently attached switches and/or controls, pumps, and/or heaters, including circulation heaters, rated 120 volts and 20 amperes or less, single phase, shall be permitted to be cord-and-plug-connected with a cord not shorter than 1.83 m (6 ft) and not longer than 4.6 m (15 ft), and shall be **GFCI protected**. The cord shall be minimum hard usage. If the **GFCI** is provided as an integral part of the cord assembly, it shall be located at the attachment plug or in the power supply cord within 300 mm (12 in.) of the attachment plug.

**(B) Storable and Portable Pumps.** A cord-connected storable or portable pump utilized with, but not built-in or permanently attached as an integral part of, a storable or portable immersion pool shall be listed, labeled, and identified for swimming pool and spa use, and shall meet the requirements of 680.31.

**(C) Storable and Portable Heaters.** A storable or portable heater, including circulation heaters, **used** with, but not built-in or permanently attached as an integral part of, a storable or portable immersion pool shall be rated 120 volts and 20 amperes or less or 250 volts and 30 amperes or less, single phase; shall be identified for swimming pool and spa use; shall be permitted to be cord-and-plug-connected with a cord not shorter than 1.83 m (6 ft) and not longer than 4.6 m (15 ft); and heaters supplied by branch circuits rated 150 volts or less to ground shall be provided with **GFCI** protection. The cord shall be minimum hard usage. If the **GFCI** is provided as an integral part of the cord assembly, it shall be located at the attachment plug or in the power supply cord within 300 mm (12 in.) of the attachment plug.

**(D) Audio Equipment.** Audio equipment shall not be installed in or on a self-contained storable or portable immersion pool. All audio equipment operating at greater than the low-voltage contact limit and located within 1.83 m (6 ft) from the inside walls of a storable or portable immersion pool shall be grounded and shall be **GFCI protected**.

**(E) Location Proximate to Luminaires, Lighting Outlets, and Ceiling-Suspended (Paddle) Fans.** The storable or portable immersion pool shall be installed at least 3 m (10 ft), measured diagonally from the nearest point on each luminaire, lighting outlet, and ceiling-suspended (paddle) fan operating at greater than the low-voltage contact limit, to the nearest point on the top rim of the immersion pool. Luminaires shall not be installed in or on a storable or portable immersion pool.

**(F) Location Proximate to Switches.** The storable or portable immersion pool shall be installed at least 1.5 m (5 ft), measured horizontally, from all switches operating above the low-voltage contact limit. Switches that are packaged with the immersion pool as an integral part of its internal electrical system, or that are integral to cord-and-plug-connected electrical equipment utilized in the pool's water circulation or drain system, including storable and portable pumps, heaters, and circulation heaters, shall be permitted to be located less than 1.5 m (5 ft) from the inside walls of the pool.

**(G) Receptacles.** All receptacles rated 250 volts, 50 amperes or less, located within 6.0 m (20 ft) of the inside walls of the installed storable or portable immersion pool and utilized for supplying power to heaters or other electrical equipment serving the immersion pool, shall meet the requirements of 680.32 and 680.34.

#### **Part IV. Permanently Installed and Self-Contained Spas and Hot Tubs and Permanently Installed Immersion Pools**

**680.40 General.** Electrical installations at spas and hot tubs shall comply with the provisions of Part I and Part IV of this article.