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# NATIONAL ELECTRICAL CODE®

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## Swimming pools, hot tubs and spas



**Summer is the time of year when most swimming pool equipment, hot tubs and spas are inspected and maintained to ensure that life saving measures such as ground-fault circuit interrupter (GFCI) protection and all grounding and bonding systems are functioning properly.**

**For new installations, the 2017 NEC has been revised to improve pool safety and help reduce the risk of ESD:**

- Article 680 contains the requirements for electrical installations associated with and in close proximity to swimming pools.
- New for the 2017 edition of the code is Section 680.4, which requires all electrical equipment installed in the water, walls or decks of pools to follow the requirements found in Article 680. This section also requires equipment and products installed in the water, walls or deck to be listed, which assists the authority having jurisdiction in determining the suitability of the equipment for a given installation.
- **[680.22(A)(2)]** For 2017, concerning GFCI protection, the 10-foot distance has been removed and now all receptacles supplying circulation and sanitation system equipment must be at least six feet from the inside wall of the pool and must be of the grounding type and GFCI protected.
- **[680.28]** For 2017, a requirement points to GFCI protection for circuits above the low-voltage contact limit that supply gas-fired pool water heaters. GFCI protection is now essentially required for all receptacles that supply power above the low-voltage contact limit to equipment that handles pool water. This requirement is in addition to the GFCI protection required for 120V through 240V, single-phase pool pump motors.

- **(680.22 and 680.23)** GFCI protection is still required for all underwater luminaires operating over the low-voltage contact limit and all 15 and 20 ampere, 125-volt, single-phase receptacles located within 20 feet of a pool. Certain luminaires, lighting outlets and paddle fans also require GFCI protection based on their location relative to the inside wall of the pool and the maximum water level.
- **(680.7)** The 2017 code now requires grounding and bonding terminals to be identified for use in wet and corrosive environments, due to the fact that areas in and around pools are subject to severe corrosive conditions.

With all of this GFCI protection required for electrical equipment associated with swimming pools, chances of being shocked or electrocuted in a swimming pool have been reduced dramatically. However, GFCI devices require maintenance according to the manufacturer's instructions. Following the recommended maintenance schedule ensures that the GFCI protection functions when needed.

## NFPA Journal columns



### In Compliance column, May/June 2017

NEC changes for electrical safety in swimming pools, by Derek Vigstol

[Read In Compliance](#)



### In Compliance column, July/August 2014

Pool rules - Establishing the necessary level of electrical safety for swimming pools, by Jeff Saegent

[Read In Compliance](#)

Additional information aimed at swimmers, pool and boat owners is available in the [Public Education section of the website](#).

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