



Building and Safety Department
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Swimming Pools & Equipotential Bonding *Effective 1/1/2008*

2007 California Electrical Code, Section 680.26

What is Equipotential Bonding for swimming pools?

Establishing an electrically safe environment in and around permanently installed swimming pools requires the creation of an equipotential grid. The sole purpose of an equipotential grid is to create an area where there is no significant difference in voltage between objects that can be touched simultaneously. Examples of objects at a pool that can be touched simultaneously include the concrete decking, ladders, hand rails, light fixtures, drains, and the pool water. An equipotential grid is created by intentionally connecting all these objects together electrically, otherwise known as bonding them together.

What parts of a swimming pool require bonding?

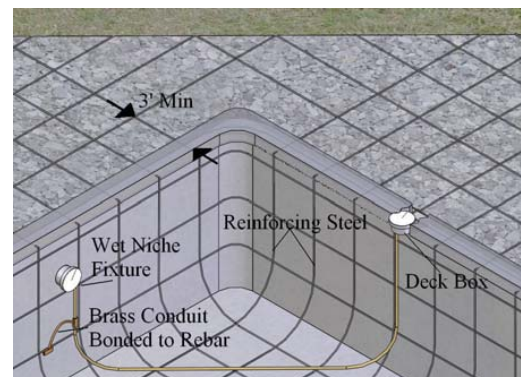
Section 680.26(B) of the 2007 California Electric Code (CEC) requires bonding of all the metal structures, fittings and parts that are horizontally within five feet of the pool wall and vertically within twelve feet above the maximum water level of the pool.

The following parts require bonding:

- Reinforcing metal of the pool shell, coping stones and deck.
- Metal conduits, metal door frames and metal window frames within five feet of the inside pool wall.
- Metal forming shells and mounting brackets of lighting fixtures.
- Metal items and fittings for hand rails, ladders, metal drains and diving boards.
- Metal casings of electrical equipment such as pump motors, pool water heaters and equipment associated with pool covers.

Equipotential Bonding Grid

Bonding just the metal parts around the pool to each other may not provide a complete equipotential plane. For this reason, Section 680.26(C) of the 2007 CEC requires connecting the metal parts to a common bonding grid (typically #3 rebar) that covers the entire contour of the pool. Additionally, the equipotential grid is required to extend horizontally under the deck for not less than three feet (#3 rebar if encased in concrete or a copper grid if under pavers).



For more information contact the Building & Safety Department at 951-461-6053.