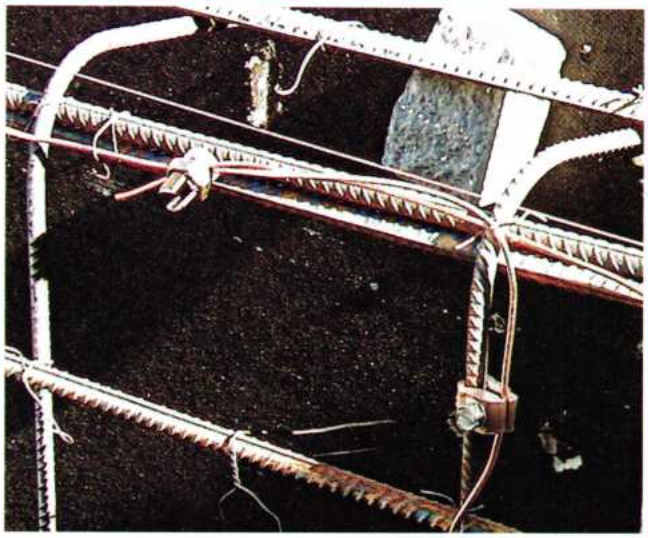

EXHIBIT 680.8 Use of listed connectors for making bonding connections at a swimming pool.

Brass or other corrosion-resistant rigid metal conduit (RMC) can also be used as a bonding conductor for connecting metal parts together. See Exhibit 680.6 for an example of using brass RMC as the method of bonding two electrical enclosures and as a point to connect bonding jumpers run to the pool reinforcing steel and stainless steel ladder.

As specified in 250.8(A), exothermic welding, listed pressure connectors and clamps, and other listed means are permitted as the method of connecting bonding conductors to swimming pool equipment. Connections in pool areas must be suitable for wet conditions and exposure to pool chemicals. Pool chemicals in swimming pool water can make the vicinity of the swimming pool area a corrosive environment. The integrity of the bonding connections should be periodically inspected, particularly those bonding connections between the solid 8 AWG copper conductor and an aluminum (or other dissimilar metal) ladder. See Exhibit 680.8 for an illustration of two acceptable methods of making swimming pool bonding connections.

(C) Pool Water. Where none of the bonded parts as specified in 680.26(B)(1) through (B)(7) are in direct connection with the pool water, the pool water shall be in direct contact with an approved corrosion-resistant conductive surface that exposes not less than 5800 mm^2 (9 $in.^2$) of surface area to the pool water at all times. The conductive surface shall be located where it is not exposed to physical damage or dislodgement during usual pool activities, and it shall be bonded in accordance with 680.26(B).

Where bonded items such as ladders, rails, or underwater luminaires are in direct contact with the pool water and provide the required surface area, it is not necessary to provide another conductive element. A conductive pool shell in contact with the water also satisfies this requirement. However, where the pool does not include any of those items, it is necessary to install a conductive element. Devices have been specifically listed as a means to provide this contact with the pool water.

680.27 Specialized Pool Equipment.

(A) Underwater Audio Equipment. All underwater audio equipment shall be identified as underwater audio equipment.

(1) Speakers. Each speaker shall be mounted in an approved metal forming shell, the front of which is enclosed by a captive metal screen, or equivalent, that is bonded to, and secured to, the forming shell by a positive locking device that ensures a low-resistance contact and requires a tool to open for installation or servicing of the speaker. The forming shell shall be installed in a recess in the wall or floor of the pool.

(2) Wiring Methods. Rigid metal conduit of brass or other identified corrosion-resistant metal, liquidtight flexible nonmetallic conduit (LFNC), rigid polyvinyl chloride conduit, or reinforced thermosetting resin conduit shall extend from the forming shell to a listed junction box or other enclosure as provided in 680.24. Where rigid polyvinyl chloride conduit, reinforced thermosetting resin conduit, or liquidtight flexible nonmetallic conduit is used, an 8 AWG insulated solid or stranded copper bonding jumper shall be installed in this conduit. The bonding jumper shall be terminated in the forming shell and the junction box. The termination of the 8 AWG bonding jumper in the forming shell shall be covered with, or encapsulated in, a listed potting compound to protect such connection from the possible deteriorating effect of pool water.

(3) Forming Shell and Metal Screen. The forming shell and metal screen shall be of brass or other approved corrosion-resistant metal. All forming shells shall include provisions for terminating an 8 AWG copper conductor.

(B) Electrically Operated Pool Covers.

(1) Motors and Controllers. The electric motors, controllers, and wiring shall be located not less than 1.5 m (5 ft) from the inside wall of the pool unless separated from the pool by a wall, cover, or other permanent barrier. Electric motors installed below grade level shall be of the totally enclosed type. The device that controls the operation of the motor for an electrically operated pool cover shall be located such that the device operator has full view of the pool.

Exception: Motors that are part of listed systems with ratings not exceeding the low-voltage contact limit that are supplied by listed transformers or power supplies that comply with 680.23(A)(2) shall be permitted to be located less than 1.5 m (5 ft) from the inside walls of the pool.

(2) Protection. The electric motor and controller shall be connected to a GFCI-protected branch circuit.

Exception: Motors that are part of listed systems with ratings not exceeding the low-voltage contact limit that are supplied