## **Swimming Pools**

- 1. Is this a "permanently installed" pool, a "storable" pool, a "spa or hot tub", or a "hydromassage tub" (680.2)
- 2. If a pool, check all pool equipment for listing (680.4)
- 3. Verify if the area where chemicals are stored, as well as where equipment is contained, is or is not a corrosive environment (680.14)

### **Overhead/Underground Clearances**

- 4. Verify overhead conductors are the proper height over the pool (680.9(A)
- 5. Verify over head communication systems are the proper height over the pool (680.9(B))
- 6. Call before you dig (if underground)
- 7. Verify proper underground wiring locations (680.11)
- 8. Verify proper cover depths for the wiring method used (300.5)

#### **Equipment Rooms and Wiring**

- 9. Verify equipment rooms have proper drainage (680.12)
- 10. Verify equipment is suitable for the environment (300.6)
- 11. Verify proper wiring methods are used in areas defined as corrosive environments as identified in 680.14(A) (680.14(B))
- 12. Verify proper wiring methods being used as feeders in corrosive environments (680.25). Aluminum conduit shall not be used in pool areas that are subject to corrosion (680.25(B))
- In noncorrosive environments other wiring methods are permitted (680.21(A)(1)),(680.25(A))

- 14. Verify that the feeder EGC is sized in accordance with T250.122 **<u>BUT</u>** is not smaller than #12 (680.25(A))
- 15. Verify flexible connections for motors utilize listed fittings (680.21(A)(2))
- 16. Verify a 3ft cord max is used for plug and cord connected motors (680.21(A)(3))
- 17. Verify that any cord used for a motor contains a #12 copper egc (680.21(A)(3))
- 18. Verify that there is at least 1 gfci receptacle, on a general purpose branch circuit, is installed between 6ft and 20ft from the water (680.22(A)(1)
- 19. Verify receptacles for circulation equipment is located at least 6ft from the inside walls of the pool (680.22(A)(2)
- 20. Verify all receptacles located within 20ft of the inside walls of the pool are gfci protected (680.22(A)(4))
- 21. For new outdoor pool installations verify that all luminaires and ceiling fans within 5ft of the pool are installed at no lower than 12 ft above the maximum water level (680.22(B))
- 22. Verify that that existing luminaires and ceiling fans installed between 5ft and 10ft horizontally from the inside walls of the pool are gfci protected (680.22(B)(4))
- 23. Verify all switches are at least 5ft from the inside walls of the pool or are separated by a permanent barrier (680.22(C))
- 24. Check for gfci protection for underwater luminaires (680.23)
- 25. Verify all underwater wall mounted luminaires are installed at least 18 inches below the normal water level (680.23(A)(5))
- 26. If pvc is used to the forming shell verify a #8 awg insulated copper bonding conductor is installed in it (680.23(B))
- 27. Verify an adequate amount of cord is available at the underwater luminaire so that it may be completely removed from the water for servicing (680.23(B)(6))
- 28. Verify the proper wiring method is being used for the location (680.23(F))

- 29. Verify that listed junction boxes are used for the raceway extending directly to the luminaire forming shell (680.24)
- 30. Verify junction boxes are installed in the proper locations (680.24(A)(2)(a))
- 31. Verify that junction boxes are properly supported (314.23(E))
- 32. Verify that conduits are installed to allow for ground movement, frost or settlement (300.5(J))
- 33. Verify all junction boxes and enclosures are properly bonded (680.24(F))
- 34. Verify proper wiring methods was used for feeders on the supply side of any pool equipment (680.25))

### **Equipotential Bonding**

- 35. Understand that the purpose of equipotential bonding is to reduce voltage gradients in the pool area (680.26(A))
- 36. The equipotential bonding grid is not to be used as a grounding electrode (250.52(B)(3))
- 37. Verify all metal parts of the pool structure are bonded together (680.26(B))
- 38. Verify the bonding conductor is a minimum #8 solid copper conductor (680.26(B))
- 39. Verify if bare reinforcing steel is present it is properly bonded (680.26(B)(1))
- 40. Verify the equipotential bonding grid extends a minimum of 3 ft beyond the inside walls of the pool and that unencapsulated steel forming the pool shell is bonded at a minimum of 4 points(680.26(B)(2))
- 41. Verify if the structural reinforcing steel or an alternate means is used for accomplishing the bonding (680.26(B)(2)(a)(b))
- 42. Verify all metallic components not addressed in 680.26(B)(1)(a) are properly bonded (680.26(B)(3))

- 43. Verify all underwater luminaire forming shells and mounting brackets of no niche luminaires are properly bonded (680.26(B)(4))
- 44. Verify all metal fittings within or attached to the pool structure are properly bonded (680.26(B)(5))
- 45. Small isolated parts not over 4 inches in any dimension that do not penetrate the pool structure more than 1 inch are not required to be bonded (680.26(B)(5))
- 46. Verify all electrical equipment associated with the pool water circulating system and with any pool covers is properly bonded (680.26(B)(6))
- 47. Verify all fixed metal parts including awnings, fences, window, and door frames are properly bonded (680.26(B)(7))
- 48. Fixed metal parts separated by a permanent barrier are <u>NOT</u> required to be bonded (680.26(B)(7)Ex. #1)
- 49. Fixed metal parts located more than 5ft horizontally from the inside walls of the pool are <u>NOT</u> required to be bonded (680.26(B)(7)Ex. #2)
- 50. Verify that a minimum of 9 sq inches of bonded metal is in contact with the pool water (680.26(C))

#### **Storable Pools**

- 51. Verify that what you have <u>IS</u> a storable pool (680.2)
- 52. Verify compliance with Part I of Article 680 (680.30)
- 53. Verify that cord connected pool pumps are double insulated (680.31)
- 54. Verify that all electrical equipment associated with the pool has gfci protection (680.32)
- 55. Check underwater luminaires for listing and proper installation (680.4)(680.33))
- 56. Verify that receptacles are not located within 6ft of the inside walls of the pool (680.34)

# Spas and Hot Tubs (Outdoors)

- 57. Verify a maintenance disconnect is installed (*NOT* a emergency disconnect) (680.13)
- 58. For <u>all</u> spas and hot tubs verify compliance with Parts I and IV of Article 680 (680.40)
- 59. For an <u>outdoor</u> installed spa or hot tub verify compliance with Parts I and II of Article 680 except as permitted in 680.42(A) and (B)) (680.42)
- 60. Verify the spa or hot tub *is a listed, labeled and identified self contained spa* for aboveground use otherwise equipotential bonding is required (680.42(B)(1))
- 61. Verify that the interior portion of the wiring method proposed is a Chapter 3 wiring method (680.42(C)) \*\*Also see 680.25 for the feeder to the unit and the manufacturer's installation instructions for the specific unit being installed (680.40, 680.4, 110.3(B))
- 62. Verify that there is at least 1 gfci receptacle, on a general purpose branch circuit, is located between 6 and 20 ft from the water (680.42,680.22(A)(1))

## Spas and Hot Tubs (Indoors)

- 63. Verify a maintenance disconnect is installed (NOT a emergency disconnect) (680.13)
- 64. For <u>all</u> spas and hot tubs verify compliance with Parts I and IV of Article 680 (680.40)
- 65. For an <u>indoor</u> installed spa or hot tub verify compliance with Parts I and II of Article 680 except as modified (680.43)
- 66. Verify any 125 volt, 30 amp or less, rated receptacles located within 10 ft of the water are gfci protected (680.43(A)(2))
- 67. Verify all switching devices are located at least 5ft from the water (680.43(C))
- 68. Verify proper locations for all luminaires, lighting outlets, and ceiling fans (680.43(B)(1))

### Hydromassage Bathtubs

- 69. Hydromassage bathtubs shall comply with Part VII of Article 680 only (680.70)
- 70. Verify the hydromassage tub is on an individual, gfci protected, branch circuit (680.71)
- 71. Verify all 125 volt, 30 amp or less, rated receptacles within 6 ft of the hydromassage tub are gfci protected (680.71)
- 72. Verify all that electrical equipment associated with the hydromassage tub is capable of being removed or serviced without damaging the building structure or <u>finish</u> (680.73)
- 73. If the hydromassage tub is plug and cord connected verify that the receptacle is installed so it's face is in direct view and not more than 1ft from the opening (680.73)
- 74. Verify that all required bonding has be done (680.74(A))
- 75. NOTE: Small conductive surfaces not likely to become energized are not required to be bonded (680.74(A)(Ex#1)
- 76. Verify that the bonding conductor used is a minimum #8 awg <u>solid</u> copper conductor (680.74(B))