

LISTED SPAS AND HOT TUBS
Residential
Outdoor Installations.

Note: This applies to all above ground or below ground “spa” type tubs used for **recreational** or therapeutic use, not located in health care facilities. Generally, these units are **not** designed to have their contents emptied after each use and should not be confused with a hydromassage (or bathroom-jetted) tub. (NEC 680.2).

This handout represents only a portion of the code requirements for spas and hot tubs. It is the installer’s responsibility to comply with all codes applicable to the installation of the unit and to coordinate these codes with the manufacturer’s installation instructions.

1. Listed packaged spa or hot tub equipment with a listed factory installed or assembled control panel or panelboard shall be permitted to be connected with not more than 6 feet of Liquidtight Flexible Metal Conduit (LFMC) or a cord and plug connection with a cord not longer than 15 feet when protected by a GFCI receptacle. (NEC 680-42 (a)).
2. Where a permanent pool is installed, at least one 125-volt 15- or 20-amp receptacle on a general purpose branch circuit shall be located not less than 6’ from, and not more than 20’ from the inside wall of the pool. This receptacle shall be located not more than 6’6” above the floor, platform, or grade level serving the pool. (NEC 680.22)
3. All 15 and 20 amp, 125-volt receptacles located within 20’ of the inside walls of the pool shall be protected by a GFCI. (NEC 680-22 (4)).
4. Lighting fixtures, lighting outlets, and ceiling-suspended (paddle) fans shall not be installed over the pool or over the area extending 5’ horizontally from the inside walls of a pool unless no part of the lighting fixture or fan is less than 12’ above the maximum water level. (NEC 680-22 (B)).
5. Lighting fixtures and lighting outlets installed between 5’ and 10’ horizontally from the inside walls of a pool shall be protected by a GFCI unless installed 5’ above the maximum water level and rigidly attached to the structure adjacent to the pool. (NEC 680-22)..
6. Receptacles (for cord and plug units) and/or outlets that provide power for a spa or hot tub shall be ground-fault circuit-interrupter protected. (NEC 680-42). *Exception:* a listed self-contained unit or listed packaged equipment assembly marked to indicate that integral GFCI protection is provided for all electrical parts within the unit or assembly (pumps, air blowers, heaters, lights, controls, sanitizer generators, wiring, etc.) shall not require that the outlet supply be protected by a GFCI.(NEC 680-44)
7. A disconnecting means shall be readily accessible and within sight of the spa or hot tub and located at least 5’ horizontally from the inside walls of the unit unless separated from the open water by a permanently installed barrier that provide a 5’ reach path or greater. The horizontal distance is to be measured from the water’s edge along the shorest path required to reach the disconnect. (NEC 680.12 Alternatively, a switch that is listed as being acceptable for use within 5’ shall be permitted. NEC 680.22 (C)).

8. Underground Wiring Location. Underground wiring shall not be permitted under the pool or within the area extending 5' horizontally from the inside wall of the pool unless this wiring is necessary to supply pool equipment permitted by this article. Where space limitations prevent wiring from being routed 5' or more from the pool, wiring shall be permitted where installed in a complete raceway system of rigid metal conduit, intermediate metal conduit, or a nonmetallic raceway system. All metal conduit shall be corrosion resistant and suitable for the location. (NEC 680-10)
9. Bond all metallic parts of the spa, metal attached to the structure, and metal parts of electrical equipment (except that metal parts of listed equipment incorporating an approved system of double insulation and providing a means for grounding internal nonaccessible, noncurrent-carrying metal parts shall not be bonded). Bond metal-sheathed cables, raceways, metal piping within 5' horizontally of the inside walls of the pool and within 12' above the maximum water level unless separated by a permanent barrier. (See NEC 680 for further details.) Bonding by metal-to-metal mounting on a common frame or base shall be permitted. (NEC 680-42 (B))
10. Grounding: Ground all lighting other than those low-voltage systems listed for the application without a grounding conductor, all electric equipment located within 5' of the inside wall of the body of water, and all electric equipment associated with the circulating system, junction boxes, transformer and power supply enclosures, GFCI's, and panelboards that are not part of the service equipment and that supply electrical equipment associated with the body of water. (NEC 680-6)
11. Spas and hot tubs shall be either equipped with a listed safety cover OR shall be provided with a barrier (see IRC AG105 for complete requirements). The barrier shall meet the following requirements:
 - a. The top of the barrier shall be at least 48" above grade measured on the side of the barrier that faces away from the spa. Max. vertical distance between grade and the bottom of the barrier shall be 2" (or 4" if grade is a solid barrier such as a concrete deck or the barrier is mounted on top of an above-ground spa. When barriers have horizontal members spaced less than 45" apart, the horizontal members shall be placed on the pool side of the barrier. Any decorative design work on the side away from the swimming pool, such as protrusions, indentations or cutouts, which render the barrier easily climbable, is prohibited.
 - b. Openings in the barrier shall not allow passage of 1-3/4" sphere (or 4" with exceptions).
 - c. Chain link fences used as the barrier shall not be less than 11 gage.
 - d. Access gates shall comply with the above and be self-closing and self-latching.
 1. Release mechanisms less than 54" from the bottom of the gate shall be located on the pool side of the barrier at least 3" below the top of the gate and the gate barrier shall have no opening greater than 1/2 inch within 18 inches of the release mechanism. Gates shall swing away from the pool.
 - e. Where a wall of the dwelling serves as part of the barrier and has a door opening that provides direct access to the spa, a separation fence meeting the requirements of above shall be provided unless a self-closing and self-latching device is installed on the door with the release mechanism located a minimum of 54" above the floor. In addition, an alarm shall be installed on the door that sounds continuously for a

min. of 30 seconds within 7 seconds after the door is opened. The alarm shall automatically reset.

- f. Where an above ground spa is used as a barrier or where the barrier is mounted on top of the spa structure, and the means of access is a ladder or steps, then the ladder or steps shall be capable of being secured, locked or removed to prevent access or the ladder or steps shall be surrounded by a barrier that meets the requirements of the above.