

**NC Department of Insurance  
Office of the State Fire Marshal - Engineering Division  
1202 Mail Service Center, Raleigh, NC 27699-1202  
919-647-0001**

**Listed and Labeled Hydromassage Bathtubs**

**Code:** 2020 Electrical Code  
**Sections:** 680.74, 90.7, & 110.3

**Date:** September 28, 2023

**Question 1:**

Are the internal wiring and components of a listed and labeled hydromassage bathtub regulated by the State Electrical Code (NEC with State Amendments)?

**Answer 1:**

**90.7 Examination of Equipment for Safety. . . .**

It is the intent of this Code that factory-installed internal wiring or the construction of equipment need not be inspected at the time of installation of the equipment, except to detect alterations or damage, if the equipment has been listed by a qualified electrical testing laboratory that is recognized as having the facilities described in the preceding paragraph and that requires suitability for installation in accordance with this Code. . . .

A listed and labeled hydromassage bathtub is referred to as a listed assembly. The NEC does not regulate the internal wiring and components of a listed assembly. Section 110.3(B) implies that the manufacturer's instructions of such listed assembly shall regulate the installation of the internal wiring and components.

**Question 2:**

Are the manufacturer's instructions of individual internal components of a listed and labeled hydromassage bathtub required to be adhered to by the installer, and do such instructions modify the instructions of the overall listed assembly?

**Answer 2:**

The instructions described in section 110.3(B) are those from the manufacturer for the assembly as a complete unit that has met a standard specified by a qualified testing laboratory. The internal components of a listed assembly have been installed in a manner that meets such standard. The qualified testing laboratory is the entity responsible for the approval of the internal components including if such installations are compliant with any individual component's instructions.

Therefore, the installer shall be concerned only with the manufacturer's instructions of the listed and labeled assembly.

**Question 3:**

Does the equipotential bonding system apply to the surrounding areas of a listed and labeled hydromassage bathtub?

**Answer 3:**

A listed and labeled hydromassage bathtub itself is regulated by the manufacturer’s instructions. The surrounding areas must also comply with any specifications deemed appropriate by the instructions for the assembly itself to be compliant. However, the surrounding areas must also be approved as compliant with the State Electrical Code because the surrounding areas are not covered under the approval of the assembly by the qualified testing laboratory.

Therefore, the State Electrical Code is applicable to the surrounding areas of a listed and labeled hydromassage bathtub including any equipotential or other bonding system required by the Code.

**Question 4:**

Are faucets, spigots, piping, shower heads and wands, towel bars, or similar plumbing and decorative metal apparatus common to the surrounding areas of a listed and labeled hydromassage bathtub required to be bonded to the spa or tub assembly.

**Answer 4:**

**680.74 Bonding.**

**(A) General.** The following parts shall be bonded together:

...

Exception No. 1: Small conductive surfaces not likely to become energized, such as air and water jets, supply valve assemblies, and drain fittings not connected to metallic piping, and towel bars, mirror frames, and similar nonelectrical equipment not connected to metal framing shall not be required to be bonded.

Faucets, spigots, piping, shower heads and wands, towel bars, or similar plumbing and decorative metal apparatus common to the surrounding areas of a listed and labeled hydromassage bathtub are only required to be bonded to the spa or tub assembly if explicitly stated in the manufacturer’s instructions of the assembly or if likely to become energized.

The State Electrical Division considers small conductive surfaces are likely to become energized when such surfaces physically touch current-carrying conductors (insulated or not), current-carrying cable assemblies, or raceways that contain current-carrying conductors. However, if the small conductive surfaces have no contact with the electrical system, then such surfaces are not likely to become energized.