



Drinking Water Valves: NSF/ANSI 61 Commercial Hot



In today's valve market, there are a host of regulations for valves that come in contact with drinking water. These regulations are designed to protect human health and prevent water pollution by setting strict limits on harmful contaminants that may leach from the product into the water. Whenever a valve is used in a drinking water system, it must meet local compliance requirements; and often valve specifiers will require compliance for non-drinking water applications if there is even a remote possibility of drinking water contact.

One of the most well-known drinking water standards is **NSF/ANSI Standard 61, Drinking Water System Components – Health Effects**. This standard is widely recognized and specified because compliance with **NSF/ANSI 61** assures compliance with essentially all other regulations, including US state and federal regulations such as **Section 1417** of the **US Safe Drinking Water Act**.

NSF/ANSI 61 is a performance-based standard that requires evaluation of actual contaminant levels from a sample product under laboratory conditions, which is then normalized to represent service conditions. This differs from **US FDA** requirements which preventatively prescribe material content to avoid contaminants. **NSF/ANSI 61** evaluations must be performed by an accredited **NRTL (Nationally Recognized Testing Laboratory)** that is certified to perform the testing.

NSF/ANSI 61 TESTING CAN BE SUMMARIZED AS FOLLOWS:

1. Manufacturers disclose the material composition of contact materials, and the lab identifies associated known contaminants to include in the test.
2. Samples of all water contact materials are collected from the manufacturer and are prepared for testing by thorough cleaning. Samples are then immersed in various test solutions for defined time periods to allow any identified constituents to leach into the test water. The test solutions consist of purified water controlled at specific PH levels and temperatures.
3. The solutions are evaluated for contaminant levels and results are normalized to represent actual in-service conditions. Contamination levels are compared to maximum acceptance limit for a pass/fail grade.

One very important factor in the testing, which is often overlooked, is the specified evaluation temperature. NSF/ANSI 61 allows for the components to be evaluated at 3 different water contact temperatures:

- **Cold Water** – 23°C (73°F) ----> listed as “CLD 23”
- **Domestic Hot** – 60°C (140°F) ----> listed as “D. Hot”
- **Commercial Hot** – 82° (180°F) ----> listed as “C. Hot”



Because hot water dissolves constituents more quickly than cold water, hotter temperatures produce higher levels of contaminants leaching into the test water. Therefore, a valve that has passed testing at the most difficult “**Commercial Hot**” level provides the highest level of protection against drinking water contamination.

Delta T is proud to offer **NSF/ANSI 61** certified resilient seated valves that are certified for **Commercial Hot** service, ensuring the highest level of protection against contamination in cold or hot water systems. Many buyers and specifiers are unaware of these subtle differences within the **NSF/ANSI 61** specification, and we recommend using the full “**NSF/ANSI 61 Commercial Hot**” description to increase awareness and promote our commitment to high quality valves.

*Note: NSF reference for water contact temperatures see below <https://info.nsf.org/Certified/PwsComponents/watercontacttemp.html>