
Planning to build a new concrete water storage tank? It may not comply with state drinking water requirements!

Engineers and / or Owners may be planning to build a concrete structure to enhance municipal storage options. Is your new concrete structure to be used as a drinking water storage tank in accordance with AWWA D110 or AWWA D115? If so, will your tank comply with NSF/ANSI Standard 61: *Drinking Water System Components – Health Effects*?

NSF International has two standards that impact the water industry. The first, NSF/ANSI Standard 60, deals with chemicals used in the treatment of drinking water; the second, NSF/ANSI Standard 61: *Drinking Water System Components – Health Effects*, with the requirements for all devices, components and materials which contact drinking water. Water storage tank “components” include tank walls, bottom, piping and coatings, among other things. The Standard also includes criteria for testing and evaluating products to ensure they do not leach contaminants into the water that would be a health concern. *“The NSF Water Treatment and Distribution Systems Program is responsible for the certification of drinking water treatment chemicals and drinking water system components to ensure that these products do not contribute contaminants to drinking water that could cause adverse health effects.”*

Forty-five states and 11 of the 13 Canadian Provinces and/or Territories require, or are in the process of adopting, NSF/ANSI Standard 61. In those states, everything that comes in contact with potable water must be certified to NSF/ANSI Standard 61. Did you know that these States and Provinces require that all interior surfaces of a concrete tank, used for drinking water storage, be NSF-61 certified?

According to NSF/ANSI Standard 61, *“All products ... coming into contact with drinking water during treatment, storage, transmission, or distribution fall within the overall scope of the program.”* The typical components of concrete are cement, aggregate, water and an admixture. In order to comply with NSF/ANSI Standard 61, all of these ingredients must be certified. While it may be possible for the Portland cement used in your tank be tested and certified, aggregate, for instance, can come from various sources and contain various ingredients. The specific aggregate used in the construction of your concrete water storage tank must also comply with NSF/ANSI Standard 61.

There are two ways a concrete water tank maker can achieve the protection demanded by policy or regulation. You can have the tank constructed ONLY using NSF/ANSI 61 Standard certified materials (Portland cement, aggregate, and admixtures), or have the interior of your tank coated with an NSF/ANSI Standard 61 compliant coating. Even though they may be using steel for reinforcement and strengthening, if your tank builder is not constructing your water storage tank with NSF/ANSI 61 Standard certified materials, your tank may not comply with State regulations listed by the Association of State Drinking Water Administrators.

One of the reasons you may have selected a concrete, rather than a welded steel, water storage tank may be the initial cost estimates and allegations that concrete water storage tanks are *maintenance free*. If the interior of your tank must be painted or equipped with a lining - because it is not constructed of NSF/ANSI 61 certified materials - your costs will be higher than expected. And since even certified concrete materials deteriorate during the life of the tank, maintenance will be required. The Steel Tank Institute recognizes that **no** water storage tank is maintenance free.

How can you assure that NSF Standard 61 ingredients are used during the construction and repair of your new water storage tank?

- Have NSF Standard 61 ingredients specified by the consulting engineer
- Review construction submittals to assure that these ingredients will be used
- Contract the services of a full-time inspector to determine if the construction materials match those submitted
- Have a person(s) representing your water system available on site to confirm that your expectations are met

For more information concerning NSF/ANSI Standard and its impact on concrete water storage tanks, please visit the following websites:

www.nsf.org

www.ansi.org

www.epa.gov

To find out if your state is one of the 45 requiring compliance with NSF/ANSI Standard 61, please contact your local drinking water agency. Or contact the Association of State Drinking Water Administrators (ASDWA) (www.asdwa.org) to receive a copy showing the complete list of State Citations in the *Survey on State Adoption of NSF/ANSI Standard 60 and 61*.