

ANSI/AWWA D110-04 Wire- and Strand-Wound, Circular, Prestressed Concrete Water Tanks)

**Watertightness**

On completion of the tank and prior to any specified backfill placement at the footing or wall, the following test shall be applied to determine watertightness:

*Preparation.*

Fill the tank with potable water to the maximum level and let it stand for at least 24 hr.

*Measurement.* Measure the drop in liquid level over the next 72 hr to determine the liquid volume loss for comparison with the allowable leakage. Evaporative losses shall be measured or calculated and deducted from the measured loss to determine the net liquid loss (leakage). The net liquid loss for a period of 24 hr shall not exceed 0.05 of 1 percent of the tank capacity.

*Extension of test duration.* If the leakage exceeds the maximum allowable, the leakage test shall be extended to a total of five days. If at the end of five days the average daily leakage does not exceed the maximum allowable, the test shall be considered satisfactory. If the net liquid loss exceeds the maximum allowable, leakage shall be considered excessive and the tank shall be repaired, disinfected, and retested until leakage falls within the appropriate limit.

*Damp spots.* Damp spots on the exterior wall surface or measurable leakage of water at the wall base shall not be permitted. Damp spots are defined as spots where moisture can be picked up on a dry hand. The source of water movement through the wall shall be located and permanently sealed in an acceptable manner. Leakage through the wall-base joint or footing shall likewise be corrected. Damp spots on the footing are generally to be expected and are permissible.

The ANSI/AWWA D115-95 (CIRCULAR PRESTRESSED CONCRETE WATER TANKS) standard is somewhat similar.