

Testing Procedure

1. Each section of the piping system, including all water services, shall be subjected to a pressure test of 150 psi, or one and one-half (1-1/2) times the working pressure, whichever is greater, measured at the high point of the system.
2. Water for Testing: Water from the County's water system shall be used for filling the pipeline for testing. A hydrant meter shall be obtained from the Department and Contractors will be billed for water used. Permission must be obtained from the Inspector before filling any water lines. The Contractor is not permitted to operate valves on existing line unless otherwise directed by the Inspector.
3. Before testing, all air shall be expelled, and all caps, plugs, and fittings shall be properly restrained. Air is expelled by opening a fire hydrant or air release vents or corporation cocks at the high points of the line. Once all the air is released, the valves between the existing distribution system and the pipe to be tested are closed. Pressure is then applied to the portion of the pipeline being tested by means of a hand or motor driven pump.
4. The pipeline shall be pressurized to 150 psi (or 1-1/2 times the working pressure, whichever is greater) and held at this test pressure for at least two (2) hours duration, with an allowable leakage (defined as the amount of water that must be added to maintain the test pressure within 5 psi of the starting test pressure) of not greater than:

$L = [(S \times D \times \sqrt{P}) \div 148,000]$; L = allowable leakage in gallons per hour, S = the length of pipe tested in feet, D = the nominal pipe diameter in inches, and P = the average test pressure in psi during the leakage test,

Example: 1000 feet of 12-inch pipe is to be tested at 150 psi for 2 hours.

Allowable Leakage per hour = $[(1000 \times 12 \times \sqrt{150}) \div 148,000] = 0.993$ gallons per hour

**For a 2 hour test, allowable leakage = $2 \times 0.993 = 1.986$ gallons*

5. Any defects discovered during this test shall be repaired and the test repeated until the results are satisfactory to the Inspector. The Contractor shall supply all equipment, materials, and labor necessary to conduct the test. The Contractor shall provide a suitable test pump and properly calibrated gauge or other means for measuring leakage, and a disinfected potable water tank, which is satisfactory to the Inspector.