**Section 890.1930 Test Methods**

a) Roughed-In Plumbing. The piping of plumbing drainage and venting systems shall be tested upon completion of the roughed-in piping installation by water or air to prove watertight. The Department or local plumbing inspector may require the removal of any cleanout plugs to ascertain if the pressure has reached all parts of the system.

b) Water test. The water test shall be applied to the drainage system either in its entirety or in sections after piping has been roughed-in. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest opening of the section being tested and each section shall be filled with water; however, a section shall not be tested with less than a ten (10) foot head of water. In testing successive sections, at least the upper ten (10) feet of the next higher section shall be tested, so that every joint or pipe in the building (except the uppermost ten (10) feet of the system) shall be submitted to a test of at least a ten (10) foot head of water. The water shall be kept in the system or in the portion being tested for at least 15 minutes before inspection starts; and inspection or testing of the system shall confirm that the system is tight at all points.

c) Air test. An air test shall be made by attaching an air compressor testing apparatus to any suitable opening and after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of five (5) pounds per square inch (p.s.i.) or sufficient to balance a column of mercury ten (10) inches in height. This pressure shall be held without introduction of additional air for a period of at least fifteen (15) minutes.

d) Water Supply System. Upon completion of a section, or the entire water supply system, the system shall be tested and proved tight under a water pressure at least one and one-half (1 ½) times the system pressure but at least 100 p.s.i., by air or water. When exceeding 100 p.s.i., the test shall be of the hydrostatic type only. Testing pressure shall be maintained for 15 minutes. The water used for this test shall be from a potable water supply.

e) Finished Plumbing. After the plumbing fixtures have been set and their traps filled with water, their connections shall be tested and proved gas and watertight. The test for gas and water tightness of the completed drainage and vent system shall be made by filling all traps with water, and then introducing into the system a pungent, thick smoke produced by one or more smoke machines. When the smoke appears at stack openings on the roof, the stack opening shall be closed and a pressure equivalent to a one (1) inch water column shall be maintained for the period of the inspection. Where the Department or local plumbing inspector finds that a smoke test cannot be performed, a peppermint test may be substituted. A peppermint test is conducted by introducing two (2) ounces of oil of peppermint into the roof terminal of every line or stack to be tested. Immediately after the oil of peppermint is introduced into the system, ten (10) quarts of hot (160 degrees F.) water shall be added, and each terminal sealed. The detection of the odor of peppermint at any trap or at any other point in the plumbing system denotes a leak. Individuals whose body or clothing have come in contact with oil of peppermint shall be excluded from the area until the test is completed.

f) Building Sewer. The building sewer shall be tested by insertion of a test plug at the point of connection with the public sewer. The building sewer shall be filled with water under a head of at least ten (10) feet of water. The water level at the top of the water column shall not drop for at least 15 minutes.