

SECTION 312 TESTS AND INSPECTIONS

312.1 Required tests. The permit holder shall make the applicable tests prescribed in Sections 312.2 through 312.9 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the plumbing work is ready for tests. The equipment, material, power and labor necessary for the inspection and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests. All plumbing system piping shall be tested with either water or air. After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be submitted to final tests. The code official shall require the removal of any cleanouts if necessary to ascertain if the pressure has reached all parts of the system.

312.2 Drainage and vent water test. A water test shall be applied to the drainage system either in its entirety or in sections. 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 openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 5-foot (1524 mm) head of water. In testing successive sections, at least the upper 5 feet (1524 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 5 feet (1524 mm) of the system, shall have been submitted to a test of less than a 5-foot (1524 mm) head of water. The water shall be kept in the system, or in the portion under test, for at least 15 minutes before inspection starts. The system shall then be tight at all points.

312.3 Drainage and vent air test. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 pounds per square inch (psi) (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperature or the seating of gaskets shall be made prior to the beginning of the test period.

312.4 Drainage and vent final test. The final test of the completed drainage and vent system shall be visual and in sufficient detail to determine compliance with the provisions of this code except that the plumbing shall be subjected to a smoke test where necessary for cause. Where the smoke test is utilized, it shall be made by filling all traps with water and then introducing into the entire system a pungent, thick smoke produced by one or more smoke machines. When the smoke appears at stack openings on the roof, the stack openings shall be closed and a pressure equivalent to a 1-inch water column (248.8 Pa) shall be maintained for 15 minutes before inspection starts.

312.5 Water supply system test. Upon completion of a section of or the entire water supply system, the system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system; or, for piping systems other than plastic, by an air test of not less than 50 psi (344 kPa). The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 312 of this code.

312.6 Gravity sewer test. Gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, completely filling the building sewer with water from the lowest to the highest point thereof, and maintaining such pressure for 15 minutes. The building sewer shall be water tight at all points.

312.7 Forced sewer test. Forced sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer and applying a pressure of 5 psi (34.5 kPa) greater than the pump rating, and maintaining such pressure for 15 minutes. The building sewer shall be water tight at all points.

312.8 Storm drainage system test. Storm drain systems within a building shall be tested by water or air in accordance with Section 312.2 or Section 312.3.

312.9 Inspection and testing of backflow prevention assemblies. Inspections shall be made of all backflow prevention assemblies to determine whether they are operable. Reduced pressure principle backflow preventer assemblies, double check-valve assemblies, double-detector check-valve assemblies and pressure vacuum breaker assemblies shall be tested. The frequency of testing shall be determined in accordance with the manufacturer's installation instructions. Where the manufacturer of the assembly does not specify the frequency of testing, the assembly shall be tested at least annually. The testing procedure shall be performed in accordance with one of the following standards:

- ASSE 5010-1013-1, Sections 1 and 2
- ASSE 5010-1015-1, Sections 1 and 2
- ASSE 5010-1015-2
- ASSE 5010-1015-3, Sections 1 and 2
- ASSE 5010-1015-4, Sections 1 and 2
- ASSE 5010-1020-1, Sections 1 and 2
- ASSE 5010-1047-1, Sections 1, 2, 3 and 4
- ASSE 5010-1048-1, Sections 1, 2, 3 and 4
- ASSE 5010-1048-2
- ASSE 5010-1048-3, Sections 1, 2, 3 and 4
- ASSE 5010-1048-4, Sections 1, 2, 3 and 4
- CSA B64.10.