

Pressure Test Requirements

This is not an all-inclusive list; your project may have additional requirements.

The following tests are required unless alternates are specified and approved by the Engineer of Record.

Chilled Water piping:

Hydronic piping systems shall be tested hydrostatically at one and one-half times the maximum system design pressure, but not less than 100 psi (689 kPa). The duration of each test shall be not less than 15 minutes. **(FMC 1208.1) If the Engineer of Record or UES cannot confirm the maximum operating pressure of the system, then the ASTME B321.9 test shall be conducted,** which requires steel pipes must be tested at 150 psi with air for 24 hours. **(FMC 1201.3)**

Plumbing supply piping:

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). This pressure shall be held for not less than 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. **(FPC 312.5)**

DWV Piping:

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 the 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 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 5-foot (1524 mm) head of water. This pressure shall be held for not less than 15 minutes. The system shall then be tight at all points. **(FPC 312.2)**

Drainage and vent air test.

Plastic piping shall not be tested using air. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 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 not less than 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period. **(FPC 312.3)**

Gas piping:

The test pressure to be used shall be not less than 1 1/2 times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. Test duration shall be not less than 1/2 hour for each 500 cubic feet (14 m³) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28 m³) the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.
(FFGC 406.4.1)