

**1326.4 Responsibility.** The equipment, material, and labor necessary for inspection and testing shall be furnished by the permit holder or by the person who is requiring the inspection.

**1326.5 Testing.** The test shall be conducted in the presence of the Authority Having Jurisdiction or a duly appointed representative.

**1326.6 Retesting.** If the Authority Having Jurisdiction finds that the work does not pass tests, necessary corrections shall be made and the work shall then be resubmitted for test or inspection.

**1326.7 Initial Pressure Test – Piped Gas Systems.** Before attachment of system components (e.g., pressure-actuating switches for alarms, manifolds, pressure gauges, or pressure-relief valves), but after installation of the station outlets and inlets, with test caps in place, each section of the piping system shall be subjected to a test pressure of 1-1/2 times the working pressure [minimum 10bar (150 psi)] with oil-free dry nitrogen. This test pressure shall be maintained until each joint has been examined for leakage by means of soapy water or other equally effective means of leak detection safe for use with oxygen. The source shutoff valve shall be closed. Leaks, if any, shall be located, repaired, and retested in accordance with this paragraph. [NFPA 99:5.1.12.2.3.7]

**1326.8 Cross-Connection Test – Piped Gas Systems.** It shall be determined that no cross-connections exist between the various medical gas and vacuum piping systems. [NFPA 99:5.1.12.2.4]

Piping systems shall be reduced to atmospheric pressure. [NFPA 99:5.1.12.2.4.1]

Sources of test gas shall be disconnected from piping systems except for the one system being tested. [NFPA 99:5.1.12.2.4.2]

The system under test shall be charged with oil-free, dry nitrogen NF to a gauge pressure of 3.5bar (50 psi). [NFPA 99:5.1.12.2.4.3]

After the installation of the individual faceplates with appropriate adapters matching outlet/inlet labels, each individual outlet/inlet in each installed medical gas and vacuum piping system shall be checked to determine that the test gas is being dispensed only from the piping system being tested. [NFPA 99:5.1.12.2.4.4]

**1326.8.1** The source of test gas shall be disconnected, and the system tested shall be reduced to atmospheric pressure. The cross-connection test shall be repeated for each installed medical gas and vacuum piping system. [NFPA 99:5.1.12.2.4.1, 5.1.12.2.4.5]

**1326.8.2** Where a medical vacuum system is installed, the cross-connection testing shall include that piped vacuum system with medical gas-piping systems.

**1326.8.3** Medical-surgical vacuum systems shall be in operation so that these vacuum systems are tested at the same time the medical gas systems are tested. The proper labeling and identification of system outlets/inlets shall be confirmed during these tests. [NFPA 99:5.1.12.2.4.6]

**1326.9 Final Testing Standing Pressure Test – Piped Gas Systems.** After successful completion of the initial pressure tests under Section 1326.7, medical gas distribution piping shall be subject to a standing pressure test. [NFPA 99:5.1.12.2.6]

Tests shall be conducted after the final installation of station outlet valve bodies, face plates, and other distribution system components (e.g., pressure alarm devices, pressure indicators, line pressure-relief valves, manufactured assemblies, hose, etc.). [NFPA 99:5.1.12.2.6.1]

The source valve shall be closed during this test. [NFPA 99:5.1.12.2.6.2]

The piping systems shall be subjected to a 24 hour standing pressure test using oil-free, dry nitrogen NF. [NFPA 99:5.1.12.2.6.3]

Test pressures shall be 20 percent above the normal system operating line pressure. [NFPA 99:5.1.12.2.6.4]

**1326.9.1** After the piping system is filled with test gas, the supply valve and all outlets shall be closed and the source of test gas disconnected. Tests shall be conducted after the final installation of station outlet valve bodies, face plates, and other distribution system components (e.g., pressure alarm devices, pressure indicators, line pressure-relief valves, manufactured assemblies, hose, etc.). [NFPA 99:5.1.12.2.6.1]

The source valve shall be closed during this test. [NFPA 99:5.1.12.2.6.2]

The piping systems shall be subjected to a 24 hour standing pressure test using oil-free, dry nitrogen NF. [NFPA 99:5.1.12.2.6.3]

Test pressures shall be 20 percent above the normal system operating line pressure. [NFPA 99:5.1.12.2.6.4]

Leaks, if any, shall be located, repaired (if permitted), or replaced (if required), and retested. [NFPA 99:5.1.12.2.6.6]

At the conclusion of the tests, there shall be no change in the test pressure other than that attributed to changes of ambient temperature. [NFPA 99:5.1.12.2.6.5]

**1326.10 Initial Pressure Test – Piped Vacuum Systems.** Each section of the piping in medical gas and vacuum systems shall be pressure-tested. [NFPA 99:5.1.12.2.3.1]