

## Low Pressure Air Test

### Specifications for Low Pressure Air Test of Wastewater Collection Lines

After completing backfill of a section of wastewater line, the contractor shall, at his expense, conduct a Line Acceptance Test using low pressure air. The test shall be performed using the equipment listed below, according to stated procedures and under supervision of the inspecting engineer.

**EQUIPMENT:** Cherne Air-Loc® Equipment, as manufactured by Cherne Industries, Inc. of Minneapolis, Minnesota or approved equal. Equipment used shall meet the following minimum requirements:

- a) Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.
- b) Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.
- c) All air used shall pass through a single control panel.
- d) Three individual hoses shall be used for the following connections.
  - 1) From control panel to pneumatic plugs for inflation.
  - 2) From control panel to sealed line for introducing the low pressure air.
  - 3) From sealed line to control panel for continually monitoring the air pressure rise in the sealed line.

**PROCEDURES:** All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to the manufacturer's recommended inflation pressure. The sealed pipe shall be pressurized to 5 psig. The plugs shall hold against this pressure without bracing and without movement.

After a manhole to manhole reach of pipe has been backfilled and cleaned, and the pneumatic plugs have been checked by the above procedure, the plugs shall be placed in the line at each manhole and inflated to the manufacturer's recommended inflation pressure. Low pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure of any ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize. After the stabilization period (3.5 psig minimum pressure in the pipe), the air hose from the control panel to the air supply shall be disconnected. The portion of line being tested shall be termed "Acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back

pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table:

Pipe Dia. in Inches	Minutes
4"	2.0
6"	3.0
8"	4.0
10"	5.0
12"	5.5
15"	7.5
18"	8.5
21"	10.0
24"	11.5

**NOTE:** The above times are based on a 300-foot run.

In areas where ground water is known to exist, the contractor shall install a 1/2" diameter capped pipe nipple, approximately 10" long, through the manhole wall on top of the sewer lines entering the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the Line Acceptance Test, the ground water shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The hose shall be held vertically and a measurement of the height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings. (For example, if the height of water is 11 1/2 feet, then the added pressure will be 5 psig. This increases the 3.5 psig to 8.5 psig, and the 2.5 psig to 7.5 psig. The allowable drop of one pound and the timing remain the same.)

If the installation fails to meet this requirement, the contractor shall, at his own expense, determine the source of leakage. He shall then repair or replace all defective materials and/or workmanship.

**WARNING:**

Before entering any confined space, follow all local, state and federal safety precautions.

