

Fiberspar LinePipe™



Recommended Test Procedure

The recommended test pressure is 1.1 to 1.25 times the maximum operating pressure of the system, with a maximum of 1.25 times the rated operating pressure of the LinePipe. When conditions permit, it is recommended that the test pressure be at least the rated operating pressure of the LinePipe.

1. Backfill the pipe in the trench prior to hydro testing, leaving the connectors exposed for inspection.
2. Fill pipe with fresh water*, taking reasonable steps to remove air from the line. A soft foam pig should be inserted in the pipe end prior to filling with water to assist in removing air from the LinePipe. Water should be pumped in at the lowest elevation and vented at the highest elevation.
3. Once the pig and water reach the opposite end of the LinePipe, the valves can be closed and preparations made to begin pressurization.
4. Raise pressure slowly (less than 100 psi per minute) to around 30% of the system-rated pressure, holding at this pressure for 15–30 minutes. Check for leaks at fittings and connectors. Continue to raise pressure in 30% increments, holding for 15–30 minutes at each, until the desired test pressure is reached. It is acceptable to bring the pressure up to 750 psi before checking for leaks at fittings and connectors for energizing o-rings.
5. Allow the pressure to stabilize (see note below). It may be necessary to “bump up” the pressure slightly to get back above the required test pressure. After the pressure has stabilized, the timing of the test can begin. Once the test has completed, the LinePipe should be depressurized in a slow, controlled, steady rate and then de-watered, capturing test fluid as necessary.

Note:

Fiberspar LinePipe expands slightly during initial pressurization. It is, therefore, recommended that the pipe be allowed to “stabilize” at pressure for a period of time prior to beginning the actual test. This stabilization period is usually about 30 minutes for lines of up to about 5,000 ft in length, but can be much longer for longer installations. It is usually fairly obvious, and generally slow pressure loss will be due to stabilization and not due to pipe leaks. Having excessive air in the line will also lengthen this stabilization period. Temperature changes also cause the test fluid to expand or contract resulting in changes in pressure. To provide compensation on pressure graphs, track ambient temperature.

***Testing at freezing or sub-freezing ambient temperatures requires mixing of methanol or other freezing point reducing additives with fresh water used for hydro testing.**

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Controlled Decompression



Controlled decompression of Fiberspar LinePipe is best achieved by having a setup which allows easy control of pressure during the blowdown procedure. In most installations a nipple with a full opening ball valve is provided for blowdown. A suitable pressure gauge and needle valve should be fitted to the vent side of the ball valve, so that when the ball valve is opened, pressure decay rate can be controlled using the needle valve and pressure gauge.

1. It is advantageous if the line can be shut in and allowed to cool to approximately 100°F or less while the line is still under pressure. If there is no way to measure this temperature, leave the line shut in under pressure for as long as is reasonable to approach ambient or ground temperature.
2. Once the line has cooled, the internal pressure on the LinePipe should be reduced by opening the needle valve, and controlling the decompression rate to less than 50 psi per minute until 500 psi line pressure is reached.
3. When the internal pressure of the line reaches 500 psi, stop decompression and hold the line at 500 psi for 30 minutes.
4. Following the 30 minute hold, reduce the internal pressure to 300 psi by venting at a decompression rate of less than 50 psi per minute. Depressurizing from 500 psi to 300 psi should take longer than 4 minutes at this step.
5. When the internal pressure of the line reaches 300 psi, stop decompression and hold the line at 300 psi for 30 minutes.
6. Following the 30 minute hold, reduce the internal pressure to 0 psi by venting at a controlled rate. The decompression rate should be held to less than 50 psi per minute. Depressurizing from 300 psi to 0 psi should take longer than 6 minutes at this step.