

Petersen® 118 & 119-Series Multi-Flex™ Point Repair Packers Operation and Maintenance Instruction Manual

Maximum inflation pressure and backpressure limits for packers are affected by many factors including pipeline debris, fluid, and surface condition. If you do not understand these instructions or how to calculate the forces involved, consult a qualified professional engineer to advise you.

SAFETY IS EVERYONE'S RESPONSIBILITY!

Very high forces are involved in many pipeline situations. Forces increase dramatically as pressure and pipe diameter increase. Extreme care must be taken to assure the safe use of any Point Repair Packer.

These instructions must be made available to all Petersen® Packer users. All workers on the job must be trained for proper use.

Failure to comply may result in property damage, serious injury or death!

Read and understand before using Petersen® Packers!

Instructions

I. Point Repair Packer Operating Instructions:

- A. Keep out of area in line with Packer ends during use. This is any area near a line of sight to any part of the Packer.** Petersen® Inflatable Packers are not approved pressure vessels and there are many unknown variables that determine operating characteristics, including pipeline debris and coefficient of friction of pipe surfaces especially when slippery substances are involved. Never use where failure may result in injury or property damage.
- B. Inspect the product before and after each use.** Fabric must not be torn, frayed or abraded. End clamps must not protrude over the end of fabric. No structural damage should be apparent. Test air retention by inflating Packer inside a pipe. A large diameter Packer may be tested in a much smaller diameter pipe.
- C. Insert Packers completely into the pipeline.** The maximum inflation and backpressure on the Product Specification Table assume Packers are fully inserted in a clean pipe and is only an estimate. Pressures are influenced by many factors including the pipe diameter, fluid in the pipe, temperature, and the condition of the pipe surface.
- D. Always position the Packer where there are no sharp edges or protrusions** that may puncture the Packer.
- E. Inflate the Packer using a relieving style pressure regulator** to maintain proper pressure in Packer. Packers may be configured for Hot Water, Steam, or Ambient cure on relining materials. Never inflate more than the maximum pressure or temperature rating for Packer or pipe line. Changes in temperature, pipeline pressure, atmospheric pressure, and fabric stretching can

dramatically change Packer pressure. A relieving style pressure regulator and/or pressure relief valve must compensate for these factors and prevent over-inflation that could rupture the Packer. When a pressure source is removed, check the pressure at least every fifteen minutes the first hour and every two hours thereafter. **Use an approved back-flow preventive device** when a potable water source is used as an inflation pressure source. An optional Dual Hose Adapter is available for more accurate inflation and pressure monitoring during inflation. After inflation, the pressure reading on both hoses should be the same.

- F. **Provide a mechanical blocking** system to prevent slippage during use in a pressurized pipeline. Calculate pressures involved to estimate securing requirements. The coefficient of friction will vary with different pipe materials and also with fluids and debris inside the pipe. **An optional Petersen® Anchoring Harness** is available for anchoring.
- G. **Use rope, chain or cable attached to pull rings** for positioning and removing to prevent damage to inflation hose. Use an inflation hose long enough to allow inflation from a safe area.
- H. **Deflate the Packer after backpressure is relieved.** When a Packer is deflated while under pipeline head pressure, the Packer will dislodge and pressure will propel it down the pipeline with tremendous force if not securely anchored.

II. Temperature and Fluid Compatibility for Packers:

- A. Contact Petersen for custom configurations for use with steam, hot water or specific chemical requirements.

III. Relining Materials:

- A. **There are many types of relining material used with these Packers. Each contractor develops their unique methods. Generally, the packer is laid out flat and the relining material folded around the Packer. The Packer and relining material are then folded together to form a small bundle. The bundle is maintained by rubber bands or tape such as painters paper tap that will break when the Packer is inflated.**

IV. Maintenance and Care:

- A. **Clean with detergent and water** after each use, disinfect if necessary. Never clean with solvents or petroleum products!
- B. **Carefully inspect before and after each use** for abrasions, tears, movement of clamps, air leaks or any other sign of deterioration or defect. Large Packers may be leak-tested in smaller diameter pipes.
- C. **Repair small leaks and cuts with Petersen® Repair Kits** or return to Petersen for repair. Destroy the product if there are more than minor punctures, tears or abrasions that are not easily repairable.
- D. **Store in clean dry area** and in a manner that allows Packer to dry.

**Call Petersen with any questions or suggestions relating to the use of any Petersen product.
800-926-1926**

