

## PETERSEN MECHANICAL PIPE PLUGS WITHOUT INTEGRAL RESTRAINT GENERIC OPERATING INSTRUCTION MANUAL

### SAFETY IS EVERYONE'S RESPONSIBILITY!

Read and understand before using Petersen® Pipe Plugs!

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

**Warning:** Very high forces are involved in many pipeline-plugging situations. Forces increase dramatically as pressure and pipe diameter increase. Extreme care must be taken to assure the safe use of any Pipe Plug. Keep personnel out of area in line with plug ends, open plugged pipelines or manholes. This is any area near a line of sight to any part of the plug. Maximum rated back pressures assume plugs are inserted into clean dry pipes. Dirt in pipes (algae, grease, detergents, mildew, sand, etc.) can considerably decrease the back pressure values. Pipelines made of materials with lower coefficient of friction, e.g. polyethylene or new pipelines with remains of grease or agents directly decrease the coefficient of friction as well as the back pressure values. Never use where failure may result in injury or significant property damage.

### 1) BASIC RULES FOR USING ANY PIPE PLUG

- a) Wear eye protection, helmet, and protective clothing and use required safety equipment.
- b) Use confined space procedures and equipment during installation when necessary.
- c) Calculate the head pressure forces plug will be required to restrain.
- d) Select a plug that is manufactured for the actual size, pressure, temperature, and chemical requirements.
- e) Thoroughly clean the pipeline before insertion of the plug.
- f) Insert the plug seal and any restraint surface completely so it is fully supported by the pipeline.
- g) Always position the plug where there are no sharp edges or protrusions that may damage the plug.
- h) Stay clear of any area in line with any part of the plug, open pipeline or manhole when the plug is holding back pressure.
- i) Use accurate pressure gauges for measuring the pipeline head pressure.
- j) Never exceed the maximum rated head pressure for the plug at the pipe invert.
- k) Provide an anchor, support, and/or bracing to secure the plug when back pressure is present.
- l) Release the back pressure or equalize the pressure on both sides of the plug before deflating, relaxing or removing.
- m) Before and after each use, clean the plug and inspect for surface tears, cuts or any other damage.
- n) To protect the components, store in clean dry area, away from direct sunlight and in a manner that allows plug to remain dry. Rubber components are especially susceptible to deterioration from aging.
- o) Stop the pipeline flow before installing any type of plug.

### 2) MECHANICAL PLUGS

- a) **Tighten seal expansion nuts or bolts** to insure there is a tight seal and the plug is securely locked into the pipe. Tighten to the required torque on pressure rated plugs.

**Contact Petersen with questions and for custom configurations to meet specific size, pressure, temperature, and chemical requirements.**

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