

## PIPELINE CLEANING AND BATCH INHIBITION TREATMENT USING PIGS

A combination of pigging and chemical treatments is an effective way to keep corrosion in check. Pigging is a complex science with many variables that come into play. Every line has unique characteristics, influenced by factors such as system design, pressure, production, chemical use, and temperature and flow rates. In terms of the pig selection, variations in size, design, material and special modifications are employed by Pipetech to cope with system conditions.

Modifications in pigging strategies and pig specifications may be required and Pipetech can provide this guidance.

### PREPARING A PIPELINE FOR INHIBITION

It is important to clean a pipeline to bare steel to enable the inhibitor to form a molecular bond with the steel. If the pipe has no pigging history or has been pigged with inefficient pigs like balls, a progressive approach is recommended to reduce the chance of plugging the pipeline with solids.

### PROGRESSIVE CLEANING

Progressive pigging controls the amount of solids removed at each stage so that manageable amounts of debris are removed. By-pass porting can be employed to assist in keeping loose debris like sand or wax moving. It can be difficult to determine cleanliness; however, the level of debris carried with and on the pig is a good indicator.

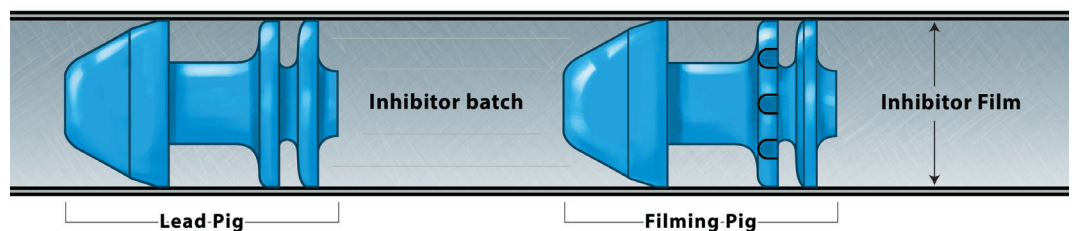
### REMOVING HARD SCALE OR DEPOSITS

Removing hard deposits and scale from the pipe wall and pits requires the use of a wire brush pig. Since brush pigs scrape sideways vs. spinning like a grinder, they must be run numerous times to ensure that the pipe wall is clean. Pipetech recommends that clients assume the pipe has tenacious scale, and make as many brush runs as possible.

### INHIBITOR BATCH APPLICATION

A batch film of inhibitor is applied between pigs, so that the chemical batch is kept in a solid column. Pipetech advises careful selection of pigs, as they can influence the success of the treatment. Inhibitor batch trains are designed solely to apply corrosion inhibitors. The Lead and Filming pigs are run as a matched set and are customized according to the ID or wall thickness of the pipeline. The Lead pig holds the batch or “pill” in place. The Filming pig is designed to displace inhibitor behind the pig in an even film on the pipe wall.

Contact time between the inhibitor and the pipe is important for molecular bonding. Since it’s rarely practical to run a long enough batch to ensure adequate contact time, a controlled amount of inhibitor left behind will ensure minimum contact time with full pipe coverage.



### MAINTENANCE PIGGING

To prevent damage to the inhibitor film a brush pig should not be used for maintenance pigging. An all-cup pig is sufficient for liquid removal in a gas system. In systems with solids, a cup/disc pig will be more effective in moving debris.

Prior to each inhibitor application, the brush pig would be run to prepare the pipe surface for bonding of the new inhibitor.

# OTHER PIPETECH PRODUCTS

- **MAINTENANCE/CLEANING PIGS**
  - One Piece Pigs
  - Pigs for Non-Metallic Pipe
  - Bi-Directional Pigs
  - Brush Pigs
  - Foam Pigs
  - Gauge Pigs
  - Pig Valve Pig
  - Steel Body Pigs
- **BATCH INHIBITION PIGS**
- **PIGS FOR NON-METALLIC PIPELINES**
- **PIG SIGNALS**
- **PIG DETECTORS**
- **FLANGE ISOLATION KITS**
- **SEALING/ISOLATION GASKETS**
- **VCS™**
- **VCFS™**
- **LINEBACKER™**
- **PGE™**
- **MONOLITHIC JOINTS**
- **METER PROVER SPHERES**
- **TRANSMITTERS**