

Engineering Bulletin

Issue Date: October 26 th , 2015	Number: 15-002
Issued By: Vishal Kulkarni	Approved By: Nick Moriarty
Subject: Guidelines for Pigging Fiberspar LinePipe	

Fiberspar LinePipe is suitable for pigging. Since innermost layer of Fiberspar is made of HDPE, guidelines for pigging HDPE pipe apply to Fiberspar as well.

It is recommended to use low- to medium-density foam pigs or polyurethane cup type/disc type pigs. Thermoplastic pressure barrier in Fiberspar LinePipe is softer than steel. Hard scraper-type pigs or aggressive cleaning pigs with wire brushes can damage the Fiberspar liner and shall be avoided.



Typically, inside diameter of Fiberspar connector is slightly (about 10%) smaller than the inside diameter of pipe but foam or polyurethane type pigs are able to easily squeeze through the connector.

- During hydrostatic test, foam pigs can be run through Fiberspar LinePipe prior to filling with water to assist in removing air from the line.
- During operations, if the line gets partially plugged with paraffin, polyurethane pigs can effectively remove deposits and blockages. Polyurethane pigs are the toughest type of pigs that are suitable for Fiberspar products. Foam pigs are not effective in removal of paraffin deposits.

In general, pig size would be same as the nominal pipe size but a pig supplier would be able to provide better guidelines for pig sizing. Typically diameter of the pig is larger than the inside diameter of the pipe to exert a frictional drag between the foam pig and pipe wall. Usually the length of the pig is approximately twice its diameter to reduce the possibility of the pig tumbling in the pipeline.

The biggest challenge with non-metallic piping is a large fluctuation in inside diameter across the piping system, from pig launcher to pipe receiver. This becomes an issue in larger pipe sizes as difference in diameter between steel and non-metallic pipe ID becomes significant. In this case, there are a couple of options:

- Softer polyurethane pig with larger diameter (close to steel riser ID) can be used. This pig may not remove as much wax but will go through steel riser without getting stuck.
- Harder polyurethane pig with diameter slightly larger than Fiberspar ID can be used. Pig diameter will be smaller than steel riser ID. This pig will be more effective in wax removal but there will be a risk of pig getting stuck inside the steel riser.
- For significant ID variances, lower durometer polyurethane pig can be sent first, followed by a higher durometer polyurethane pig, if necessary.

Foam pigs and polyurethane pigs have been successfully used with Fiberspar LinePipe for several years. NOV Fiber Glass Systems would be able to recommend pig suppliers specializing in pipe pigging, particularly non-metallic piping.

Vishal Kulkarni (Sr. Mechanical Engineer)
Nick Moriarty (Director, Field Service)