



# PLASTICS·PIPE·INSTITUTE®

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BUILDING COMMUNITY



## EXTREME PRESSURE WATER LINE USING STEEL-ENCASED HDPE PIPE RECEIVES INDUSTRY AWARD

Three Mountainous Miles Installed in Three Weeks

IRVING, Texas - A strong yet spoolable pipe capable of handling operating pressures up to 1,500 psi was used as an alternative to traditional steel pipe to create a three-mile water transfer line in a rough region of north-central Pennsylvania. The eight inch diameter pipe from FlexSteel Pipeline Technologies, Inc. (Houston, Texas) contains a corrosion resistant inner liner and outer layer made from an advanced grade of high-density polyethylene (HDPE) with a helically wrapped steel reinforcement in the middle. Due to the undertaking's high-pressure and 16,000 foot-long installation with minimal effect on the area which is part of a 400-acre private wildlife management area, it was named Project of the Year by the Plastics Pipe Institute, Inc.'s (PPI) Energy Piping Systems Division (EPSD).

"We were very pleased to present one of our newest members with the EPSD Project of the Year Award," stated Tony Radoszewski, executive director of PPI. "The ability of FlexSteel's pipe to handle 1,500 psi of pressure is impressive, especially when you consider that a typical residential water system is rated at around 60 psi. This innovative pipeline used for a fracking project in the Marcellus Shale area enabled critical project deadlines to be met, while delivering enhanced functionality with minimal environmental impact."

Radoszewski made the presentation during the PPI 2013 annual membership meeting. PPI is the major trade association representing all segments of the plastic pipe industry. The Energy Piping Systems Division promotes the acceptance and responsible use of plastic pressure pipe and systems in energy markets including gas distribution and oil and gas gathering.

"This is certainly an honor we are all very proud of," stated Tom Ferguson, CEO of FlexSteel, "especially since we just joined the PPI. Winning the Project of the Year Award is a wonderful acknowledgement of our product and years of hard work."

The three-plus mile run of eight-inch inside diameter (ID), flexible, steel-reinforced polyethylene pipeline was designed and qualified in accordance with API SPEC 17J and API RP 15S to provide years of failure-free performance.



"With a required operating pressure of 1,500 psi, typically, steel pipe would have been specified," according to Randy Knapp, director of engineering, PPI EPSD. "But because of FlexSteel's composite steel reinforced product design and the use of PE 4710 for the internal liner and the external sheath it was able to meet that requirement. Additionally, the pipe was delivered to the rugged job site spooled in 600-foot lengths on 13.5-foot reels, which was not possible with steel pipe. This ultimately saved transportation costs and further reduced the impact on the land. The long, continuous lengths that required minimal connections also greatly increased the integrity of the pipeline, provided cost savings and made it possible for it to be installed in a narrow trench and much faster than steel pipe - about one-third the time."

According to the PPI, the spoolable composite pipe structure using PE 4710 allows for the maximization of pipe performance in a system, bringing an excellent level of slow crack growth resistance and enabling a piping system to be operated at high pressure without sacrificing safety or service life.



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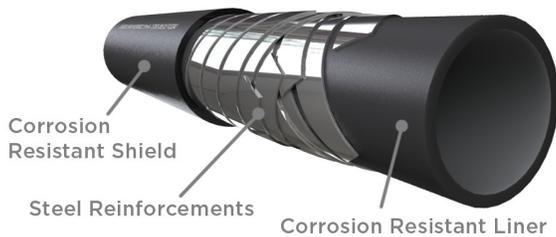


FlexSteel's eight-inch product is the largest available inner diameter for on-shore, spoolable reinforced thermoplastic pipe applications, according to Andrew Ethridge, FlexSteel's director of technical services. "It was selected as the only solution capable of meeting all of the project's requirements," he said. "The pipe's corrosion resistant, HDPE outer shield and inner lining provided the solution for handling the water to be transported to the site. FlexSteel's steel layer can withstand the undulating pressures associated with transporting water at high pressure through mountainous terrain.

Trench depth was five feet. Because FlexSteel pipe can be installed in long, continuous lengths, only 34 connections using 316L stainless steel midlines and flanged end fittings were required for the entire project. The result was significant time and cost savings compared to the more than 400 connections that would have been required for conventional steel pipe.

"Because eight-inch diameter FlexSteel pipe is available in 600-foot continuous lengths, there are about 93 percent fewer joints than needed for steel or ductile iron pipe. This enhances the integrity of a pipeline, which was especially important for this project in the mountains of Pennsylvania," stated Ethridge.

For more information, visit the Plastics Pipe Institute website: [www.plasticpipe.org](http://www.plasticpipe.org).



With an eight-inch ID and a 1,500 psi rating, the pipe provided more than enough capacity for the project. In the future, this pipeline will also be able to be used for gas applications without sacrificing performance."

The FlexSteel crew of six installed 16,886 feet of its eight-inch, 1,500 psi pipe in three weeks, which met critical project deadlines.

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### About PPI:

The Plastics Pipe Institute Inc. (PPI) is the major trade association representing all segments of the plastic pipe industry and is dedicated to promoting plastics as the material of choice for pipe applications. PPI is the premier technical, engineering and industry knowledge resource publishing data for use in development and design of plastic pipe systems. Additionally, PPI collaborates with industry organizations that set standards for manufacturing practices and installation methods.