

Plastic Pipes Body Plays Important Role In Trenchless Technology

ENSURING ONLY QUALITY HDPE PIPES ARE USED IN TRENCHLESS TECHNOLOGY APPLICATIONS



Johannesburg, August 23, 2018. The development of trenchless technology to rehabilitate existing underground infrastructure with minimal disruption to surface traffic, business, and other activities has left a lasting impact on the construction and civil engineering industries. As the name denotes, trenchless technology requires few or no trenches to be dug in order for the maintenance work to be done and can be defined as "a family of methods, materials, and equipment capable of being used for the installation of new or replacement or rehabilitation of existing underground infrastructure".

Because trenchless technology greatly reduces the need for invasive excavations, it has a much smaller impact on the surrounding environment, both ecologically and socially. Residential neighbourhoods remain unscathed, commercial districts don't have to deal with loss of business and rural regions remain undisturbed. Noise and air pollution are also kept to a minimum and rehabilitation time is short.

"In the past, problems caused by aged and damaged sewer and stormwater lines meant digging up and repairing or replacing each section of pipe that needed attention. Completing repairs this way is labour-intensive and costly, not to mention destruction to the surrounding landscape. Now, thanks to modern pipeline trenchless rehabilitation technologies like HDPE pipe lining repair and pipe bursting, we have a cost-effective and more sustainable way to go about repairing pipelines," says Jan Venter, Chief Executive Officer of the Southern African Plastic Pipe Manufacturers Association (SAPPMA).

As the use of trenchless technology continues to grow popularity and use, so too does the importance of using top quality pipe material that meet the specific requirements of the particular technique being used. For this reason, a sound working relationship exists between the Southern African Association of Trenchless Technology (SASTT) and SAPPMA, whereby the one association focuses on the installation techniques and the latter on the quality and type of materials used.

"The plastics pipe industry is a strategic industry, where hardware needs to be reliable for extended periods of time. According to industry standards, quality plastic pipe should endure in excess of 100 years without failure. For this reason, SAPPMA's vision is to ensure long term product quality of the materials used – whether it is in standard pipe installations or trenchless technology applications," Venter explains.

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When it comes to trenchless technology, there are many different methods to choose from. However, the two most commonly used applications are:

- **Pipe Lining:** This involves pulling or inverting a new liner into an existing pipe, then applying heat and/or pressure to force the liner to expand and fill the pipe.
- **Pipe Bursting:** This involves fracturing a pipe from the inside and forcing the fragments outwards while a new pipe is drawn in to replace the old pipe

Most of the services that currently provide trenchless techniques, are for reticulation and collector systems of up to 450 mm in diameter. These installations involve the pulling, pushing or expanding of pipes or pipe components into place. Deteriorated pipelines are rehabilitated using various types of slip lining and directional drilling, while existing pipelines can be upsized using pipe bursting and its derivatives.

Thanks to the many benefits it presents in terms of cost-effectiveness, minimised environmental impact and safer procedures, using HDPE pipes in trenchless technology is rapidly becoming the preferred method of rehabilitating pipelines in the construction and civil engineering space. Not only do these pipes offer a 100-year design life, but they also offer solutions to major industry challenges such as corrosion and high leakage rates.

“HDPE pipes are ideal for pulling through long, underground holes as they are flexible, robust and resistant to almost all aggressive elements. These plastic pipes offer a new generation of leak proof, maintenance free and energy efficient pipeline systems that are chemical and abrasion resistant and therefore excellent for use in the lining and relining of pipelines, slurry applications, water reticulation, sewer and storm water systems, the mining industry and in Dolomite areas,” Venter explains.

Another prominent feature of HDPE pipe is the fact that it is available in a wide variety of jointing systems to suit almost any application and installation method, both new and existing. These pipes can be welded into long continuous lengths before being pulled into place and are available in diameters ranging from 16mm up to 1000mm, and in pressure ranges from PN2.5 to PN25 in PE100.

“In order to ensure that the plastic pipes used in trenchless technology applications are manufactured according to international quality standards, SAPPMA has adopted the International Standards Organisation’s (ISO) standards for setting the quality of thermoplastic (in particular HDPE and PVC) pipes, which have been published as SANS/ISO standards. When we audit our member companies, we ensure that their pipes meet these specified, stringent quality standards before they are allowed to carry the SAPPMA mark of approval, in addition to that of a product certification body such as South African Technical Auditing Services (SATAS) or the SABS”.

“We believe that by ensuring that contractors are supplied with piping that meets the high quality standards required for trenchless installations, SAPPMA is playing an important role in supporting the country’s trenchless industry,” Venter concludes.

For more information, visit www.sappma.co.za

Sources:

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