

PICOTE/RENOS COOPERATION EXPANDS SLIPLINING OPTIONS

Installing the Flexirohr
sliplining pipe system
using upper pipe guide

Picote Solutions is pleased to announce that it entered into a cooperation agreement with Renos Oy to design, develop and supply equipment in support of the Renos Flexirohr trenchless sliplining method which is applicable to gravity sewers pipes from DN100 to DN300 (4 in to 12 in) diameter. This partnership takes sliplining to a new level, making it an accessible option for contractors around the world, with more pioneering innovation scheduled for launch in 2022. >


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The Flexirohr sliplining pipe



“The Flexirohr factory-produced pipe (in SN8 or SN4) offers a long-lasting solution with an expected lifetime of over 50 years”

The Flexirohr liner is a corrugated outer skin/smooth inner skin PE pipe which provides excellent flexibility when used as a sliplining product. It can be simply installed through existing manholes over longer distances using a winch and cable. In smaller diameters pipes or over shorter lengths the installation can be installed manually. As with all sliplining systems there is a slight loss of inner diameter once the installation is completed, which does not affect flow. The ring stiffness class of the pipe is SN8 (DN 270 Flexirohr is SN4). Whilst an ideal solution for main line sewers, in the diameter range, the system is also particularly applicable to the rehabilitation of house connections.

The Flexirohr factory-produced pipe (in SN8 or SN4) offers a long-lasting solution with an expected lifetime of over 50 years. The pipe is available in 6 m (19½ ft) lengths or as a 50 m (164 ft) long coil depending on the circumstances of the installation. The longer coil product can be used and cut to length as required on site, with welding required for longer lengths. The pipe is prepared on site to the precise length required to give a tight, continuously welded system which is easily installed, without excavation, through existing manholes and accesses with minimal waste, making it a fast and efficient installation with minimum impact to traffic flows, the local environment and local residents. The system can also be installed whilst the sewer remains functional, eliminating the need for by-pass pumping! The pipe design and material enables installations to be carried out in lower temperatures and other winter conditions.

The installation operation is relatively simple. The pipe to be lined is first cleaned using Picote high-speed Millers or jetted. A pulling head is then attached to the prepared Flexirohr pipe and >

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The Picote Welding rig used to butt weld the ribbed PE Flexirohr pipe



connected to the winch cable. Once pulled in place (at a rate of 8 m/26 ft per minute) the ends of the pipe are fixed in the manholes at either end. The system has also pull-resistant couplings for other pipe connections.

Manufactured in Fränkische, Germany, the Flexirohr pipe has a corrugated outer skin so there is minimal use of oil in its production, resulting in a much-reduced overall weight and therefore the installation is also free of potential toxic waste. The corrugated pipe is DIBt certified and has been utilised in several European countries as well as South America, having been used for sliplining since the 1990's, with over 1,000 km of pipelines rehabilitated to date.

The major advantage of the Flexirohr system is that no digging is needed in an installation between two manholes (in sizes <800 mm diameter). This offers a huge advantage compared with traditional PE sliplining. The structure of the pipe allows it to negotiate smaller bends in the host pipe, should they exist.

Picote equipment

For its part in the cooperation arrangement, Picote is providing a complete set of equipment that allows the Flexirohr pipe to be utilised as a flexible trenchless sliplining method. Picote R&D redesigned and developed existing equipment to produce high-end tools, making the process much easier and enabling it to be adopted for projects globally.

One innovative addition to the Flexirohr sliplining systems is the new pipe welding system. Picote R&D has developed unique tools for this welding process, including: a new welding rig, welding inserts, pipe cutters, pulling heads and welding balls. Also, the equipment helping the installation via pulling in of the pipe has >

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The Upper Pipe Guide directs the liner pipe through an existing manhole without the need for extraneous excavation



been significantly redesigned. All of these new tools make the installing process easier, faster and more efficient. The tools are simple, light-weight and have good ergonomics.

The welding process ensures that Flexirohr PE pipe joints are stable and remain able to bend in the same manner as the original pipe. Without this facility there would be potential for the pipe to separate during the installation process as the weld is under stress due to bending. This is no longer a concern with the Picote Welding Rig!

“We are in the process of enabling contractors to hire the system as well as purchase for longer-term potential works. Picote’s contracting arm in Finland is also due to take on the system as part of its rehabilitation portfolio”

Commenting on the Flexirohr sliplining system for Picote Solutions, Dawn Greig, Senior Director said: “We have worked closely with the team at Renos Oy to ensure that the system is more than fit for purpose. The equipment we have developed has enabled this highly flexible sliplining option to become a reality that will truly revolutionise the smaller bore pipeline rehabilitation market with a simple yet highly effective alternative to other lining methods worldwide, whilst also providing a lower carbon footprint which is always at the forefront of Picote engineering. We have even more exciting advances coming with this method in the near future, get in touch to discuss further.”

For Renos Oy Sami Levänen said: “The work to put together the Flexirohr sliplining system as we now have it has been challenging, but between us Renos and Picote have developed what we believe to be a simple, cost effective and readily available sliplining operation that can be easily transferred across the industry, whilst offering a system that is environmentally-friendly and trenchless. We are in the process of enabling contractors to hire the system as well as purchase for longer-term potential works. Picote’s contracting arm in Finland is also due to take on the system as part of its rehabilitation portfolio. We have also posted demonstration videos of how the system operates on our website for anyone who wants to learn more.”

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