



**We
are at
home
in tubes!**

**PIPE CLEANING, BUILDING
AND SERVICING LTD.
www.umwelt-technik.hu**

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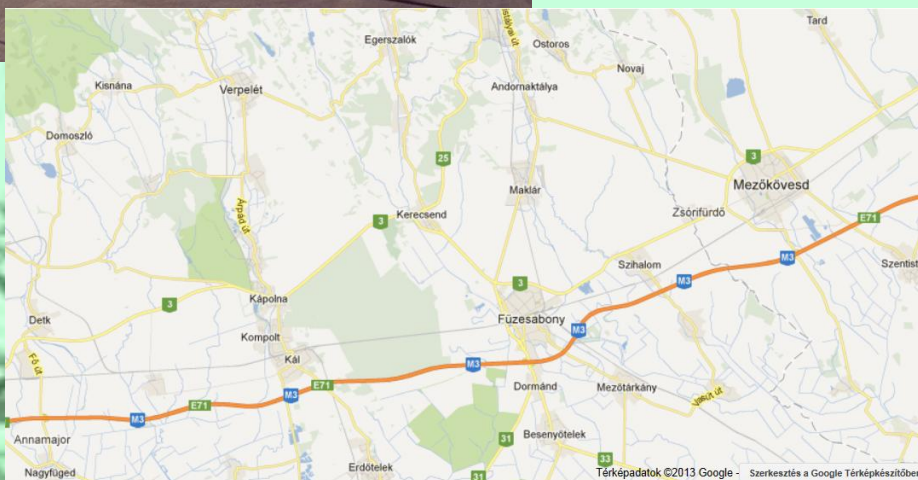
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Inspection, Cleaning and Trenchless Renovation of Pipes

Umwelt Technik Ltd. was founded in 1990. In the beginning, we were engaged in the cleaning and complete disinfection of pipes and the installation of a new pipe system. The scope of our activity was greatly expanded when the Austrian company, Rabmer GmbH became a co-owner of our enterprise and helped the works with new technologies. As a result, in 1991 application of the processes CF-Liners, Process R.tec was introduced in Hungary. Our processes have been expanded through continuous development, in line with the requirements of our clients.

We offer a wide spectrum of services, ranging from the inspection of pipelines to renovation. Efficiency is guaranteed by the high technical standard of the processes, the experience of our expert personnel and the quality assurance system.

Umwelt-Technik Kft. is majorly owned by the Hungarian Olajgép-Tec Kft and it is a member of the Austrian Rabmer Group and the Japanese Sekisui Group; therefore, we are able to rely on the experience of the group gained in Europe. We offer a wide range of processes for pipeline inspection, cleaning and trenchless renovation.

Our advanced premises constructed in Kerecsend provide proper conditions for the preparation of our work, and the storage and maintenance of our equipment and materials.

Our objective is to offer our clients the most suitable processes to solve their pipeline problems. An important aspect of our work is to get acquainted with the problems and special renovation requirements of pipeline operators.



Fehér Sándor
managing director

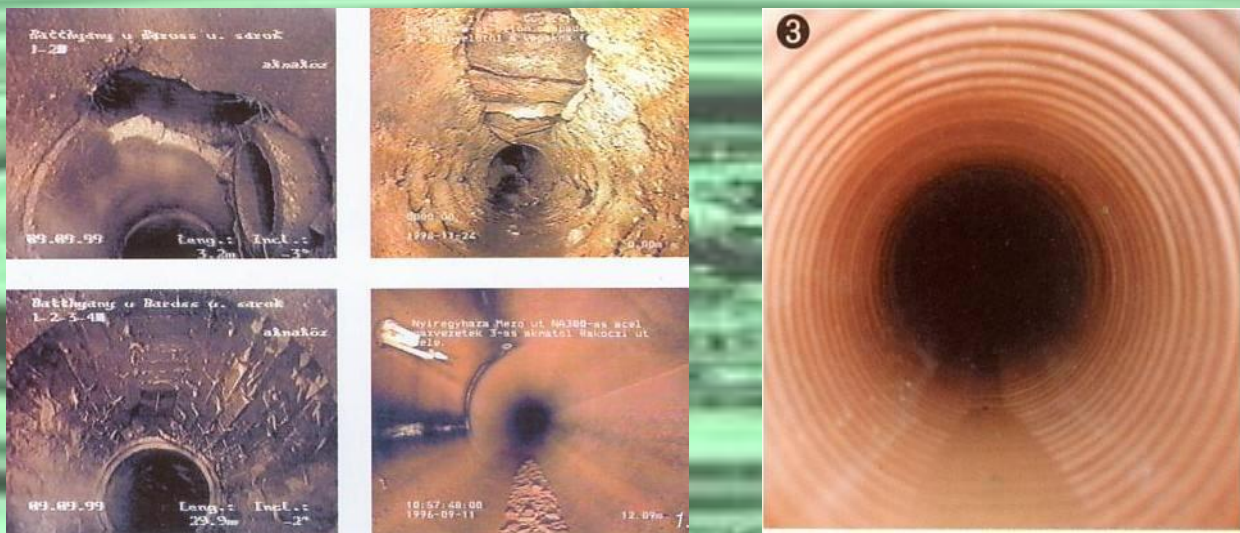


Damaged pipes are “time-bombs”

Deposits and corrosion as well as ageing of functioning pipes pose real threat to the environment. In order to prevent environmental damages pipe defects have to be eliminated.

Conventional methods of pipe replacement are expensive and noisy, take time and disturb traffic. Ensuring continuous functioning during renovation and keeping groundwater low, also rise costs.

The cost effective solution is trenchless renovation.



Individual solutions

We offer a wide range of methods to inspect, clean, repair and renovate pipes. We apply fast, simple and cost-effective techniques for gravity and pressure systems with DN from 80 to 3000mm. Our objective in the course of renovation is to maintain the through-flow rate in the renovated lines with achieving the strength of a new pipe.

We inspect and renovate

We inspect water conduits, gas and industrial pipes and sewers as well as pressure and gravity systems.

What we offer:

- a completed system of tried and tested techniques
- robot technology of high-standard, e.g. for the cutting and repair of house connections
- applying these methods in new fields
- optimal solutions to individual problems



The advantages of the applied methods:

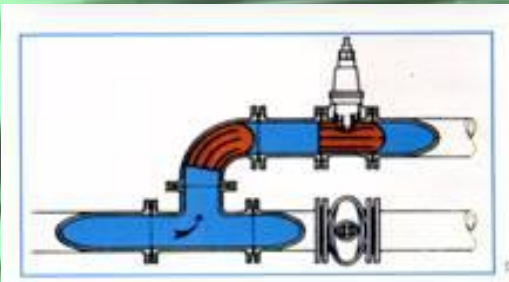
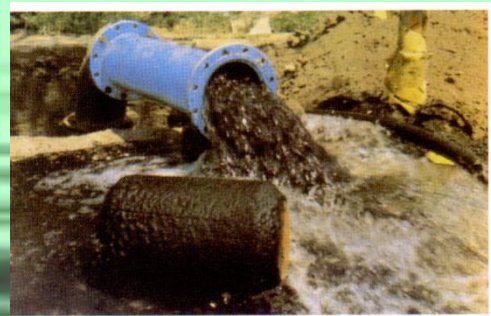
- meet stringent quality requirements
- only slight reduction in pipe diameter
- short standstills
- little space required
- long life

considerable costs can be saved

Pipe cleaning

The first step of pipe renovation is pipe cleaning.

Different cleaning tasks require different methods, e. g. gravity system are to be cleaned with the high- pressure hydraulic methods. For pressurized systems the mechanical cleaning methods that have proved the best. A mechanical cleaning and complete disinfection technique of systems under pressure is EGER CLEANER.



Eger Cleaner

Here, various cleaning elements are pushed through the pipe section to be cleaned by means of pressure from the back.

With their active surfaces, these elements separate the deposits formed in the pipe and keep them moving, to push these out on the other end of the line. This method can be used for pipes made of all kinds of materials, from DN 50 mm also, for the cleaning and complete disinfection of drinking-water conduit.

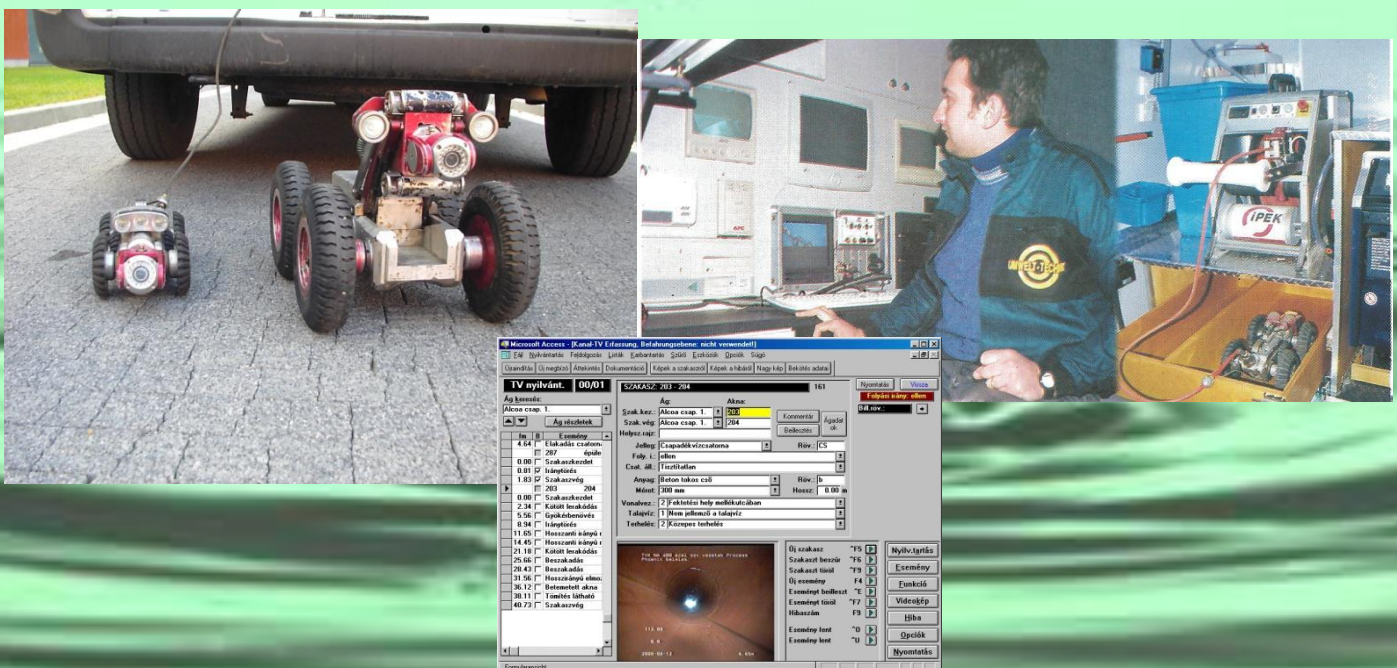
(ÁNTSZ permit No. 3089/97) The cleaning elements pass through bends and gate valves, also some types can be turned in Tee –sections.

Thus the cleaning and complete disinfection of connected complex systems is fast and easy.

Inspection of pipes with closed-circuit television

Before renovation, detailed and careful inspection of the pipes is essential. Such comprehensive inspection is done with a closed-circuit television system. State-of-the-art technology allows shooting a film in color of pipe defects, also, the system informs us about the general condition of the entire pipe.

Information provided by industrial television inspection is then processed on the computer and made use of as part of a system of data.



Computer-aided registration DIGIKAN channel register computer –aided data processing and registration

To be able to cope with the task of handling an ever increasing amount of data about sewer network, our group of companies developed a program called DIGIKAN.

This software creates a data bank from the results of closed-circuit television inspection and the information supplied by the company running the network. The data bank is easy to work with. The statistic module allows access e.g. to information on maintenance and renovation. The system can be linked to other digitalized registration systems.

WECO – internal sealing for passable pipes

The patented renovation technique WECO, which applies internal rubber gaskets for repair, has been in use world-wide for 30 years for the trenchless repair and rehabilitation of gas pipes, water conduits and sewers.

Internally applied WECO gaskets are suitable for the lining of steel, cast iron, reinforced concrete, PVC and other plastic as well as concrete pipes.

WECO is an economical method for trenchless pipe reparation and rehabilitation.



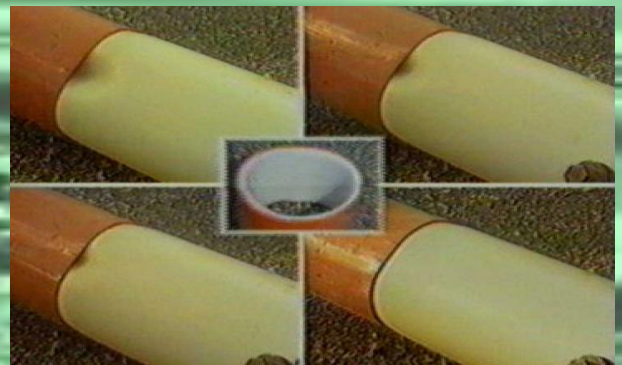
Why WECO- as opposed to other techniques?:

- rapid insertion
- less earthwork
- minimum obstruction to traffic
- suitable for the repair of coupling cases of pressure and gravity pipes
- can be applied to repair longitudinal cracks in the pipe
- WECO gasket is suitable for the repair of pipes with egg profile
- follow-up by a special valve inserted

CF-Liner

The CF-Liners method is suitable for the renovation of gravity and pressure pipes with DN from 100 to 300 mm. CF-Liner pipes are made of very strong polyethylene. In this method the pipe is thermo-plastically pre-formed into a C-shape and wound on drums to be delivered to the work site.

At the place of installation the relining pipe formed in a C-shape is pulled into the renovated pipe with a winch. Depending on the diameter the pipe section to be renovated in one step may be as long as 300 m. The length of relining can be increased with the help of a simple electro fitting welding, in accordance with the task.



The space required for pulling in the liner is small, e.g. , in the case of sewer systems, the existing cleaning man-holes provide sufficient space.

After it has been pulled in, it is trimmed to size and special sealing elements are put to both ends. The liner is steam-heated, then, pressure is applied to it. The lining regains its original shape (egg-profile, circle)(Memory effect). The new pipe is pressed against the wall of the renovated pipe, which is ensured by the correspondence of the CF-Liner to the inner diameter of the renovated pipe.

When renovation is complete, connections are opened up by a robot specially designed for this purpose.

Application for the trenchless renovation of water conduits, gas pipe, sewers, rainwater drains industrial and other pipes.

R.tec

In this method, a specially formed hose is placed onto the inner wall of the pipe. This process is suitable for renovating water conduits, gas pipes and sewers. Diameter may range from 80 to 1200mm. The length that can be relined in one step is up to 500 m, depending on the diameter. 90 bends can be relined if bending radius is 3D more.

The concentrically woven tube used here is made up of polyester and nylon fibers and covered with special coating (PE, PU, Hyrtel) depending on the substance flowing by the pipe line. The tube is designed for an internal pressure of 10 bars but the design for larger values of pressure is also possible.



At the place of the installation, the tube is filled with epoxy adhesive, then, wound on a drum placed inside a device that will turn the tube inside out. Turning the tube inside out is done with compressed air. The speed of turning out is controlled by air pressure and by slowing down the drum.

After the liner has been turned inside out, its surface saturated with epoxy adhesive contacts the inner surface of the pipe. Hardening of the adhesive is accelerated with the introduction of steam. Laterals are cut free by a remote controlled robot.

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Services:



No-dig pipe rehabilitation with Rabmer technologies and U liners



cleaning of pipelines



Repairing local defects, rehabilitation of connecting pipes
(Shortliner, Brawoliner, rehabilitation with "capped" fitting pieces)



Inspection of pipelines with industrial television facilities



Inspection of pipelines with AMS-4 electronic probes

Key References



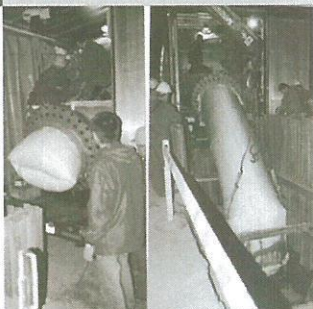
Budapest
2004-2005

Budaörsi út

DN 400 mm
cast iron drinking water line
reconstruction

Budapest
2004

Bródy S. út



DN 1050 mm
cast iron drinking water line
reconstruction

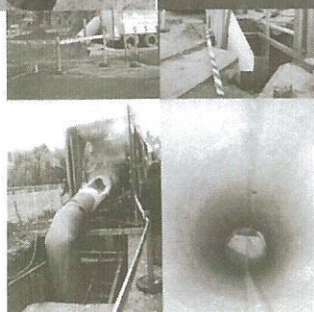
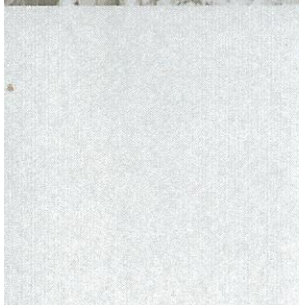


Budapest
2004

Baross u. - Hold u.



DN 500 mm
cast iron drinking
water line
reconstruction



Budapest
2004-2005

Baross u. - Hold u.

DN 500 mm
cast iron drinking
water line
reconstruction