




## New standards with BLS® pipes



permissible tensile strength of a maximum of 30 tonnes was never exceeded.

The BLS® system was crucial to the fast and safe assembly of the pipes. The pipes were connected in the interim trenches using one BLS® collar with a clamping ring, which was quick and saved costs. In addition to the supply of a DN 500 BLS® traction head and special accessories, the engineering agency and the construction company were also supported on-site from the outset by colleagues from the BGW sales department and application technology. The permanent attendance of the industrial partner at a building site is not a matter of course, but it guarantees a smooth process for difficult construction technologies that are looking to the future by heading into uncharted territory.



### Briesen Frankfurt/Oder – Top quality relining project

The Briesen water works is situated between Berlin and Frankfurt an der Oder, approx. 16 kilometres to the west of the “Rosengarten” elevated reservoir, the buffer reservoir for the Frankfurter Wasser- und Abwassergesellschaft mBH (Frankfurt water and sewerage company). The pipeline built in 2005/2006 from DN 600 cast iron pipes was no longer able to cover the peak demand for drinking water of the town of Frankfurt an der Oder, with its 60,000 inhabitants and its surrounding towns and villages. Therefore the client decided to reinforce an existing old DN 800 reinforced concrete pipeline by pulling in plastic pipes. However: a secondary bid with the well-known local construction company (RAKW) persuaded the client of the clear benefits of „ductile cast iron“ as a material in general and the BLS® system in particular and above all highlighted the price benefits for the entire construction process, taking account of the construction time.

#### 15 kilometres in five months

From the end of April to the beginning of October 2008, 15 kilometres of pipeline was laid in a relining process so that the full commissioning was possible one month ahead of schedule. This high level of productivity was a challenge for the suppliers' logistics and at the same time set a new standard for the construction company's technology. Heavy plant had to be used e.g. a tracked vehicle with special cable drums and anchor plate. Together with

the Berlin logistics partner, the BGW of the office sales team co-ordinated the punctual deliveries of 2500 DN 500 BLS® pipes with accessories and 120 fittings.

#### Relining – environmentally friendly, cost-effective and quick

The old reinforced concrete pipeline runs near biotopes, woodland areas and agricultural areas, approximately parallel to the A12 motorway, which it keeps crossing. By pulling in the pipe, it was easy to “pass under” several graves and unharvested fields.

The construction company worked in several groups so that the individual technological steps could be performed simultaneously on different sections of the line. If local conditions did not require shorter distances, the distances between pits was between 380 and 450 metres. That is cost-effective industrial construction, environmentally friendly and satisfied the most stringent quality requirements! The

#### Relining in Briesen: The technology in the construction process

- Dig up and separate the old pipeline near the assembly pits, expand the assembly pits,
- If necessary set up drainage for the trench,
- Pull rope through the old pipeline with a robot,
- Attach a strong steel cable to this auxiliary rope and pull it through,
- Position the pipes by the assembly pit, sink them in the pit then assemble them,
- Pull in the pipes using the cable and a tractor,
- Connect the assembly and pulling pits with pipes and fittings so they are secure against shearing,
- Test the impermeability and hygiene of the connected sections,
- Fill the space between the DN 800 old pipe and the DN 500 new pipe,
- Fill, compress the remaining pits and fill with topsoil,
- Commission the individual sections of the pipeline in alternation with the parallel line

