On the safe side

Replacement of a long-distance pipe in a mining subsidence area

The "Wasserverband Gruppenwasserwerk Fritzlar-Homberg", a regional water supply company based in Homberg (Efze), has been supplying 11 member towns and communities with high-quality fresh water from three waterworks since 1957. The supply network of the association covers a total piping length of approx. 660 km, of which about 180 km consists of purely transport or long-distance sections. Most of the piping comprises ductile cast iron pipe supplied by Buderus Giesserei Wetzlar GmbH.

Following a comprehensive long-distance pipe renovation programme in the mid-1990's, the renovation of the last section is now imminent in the form of the main long-distance pipe from the Haarhausen waterworks to the first main WBH Batzenberg control tank.

The old DN 350 pipe approx. 7 km long and made of grey cast iron, was replaced by a new DN 400 pipe of ductile ZMU cast iron pipes, partly with BLS® sleeve connections. The ZMU coating is absolutely essential, since the pipe will be laid in acidic clay soils.

During the preparations for this work, consideration had been given to seeking alternatives to the cast iron material previously used. During the course of this planning, however, the company, together with the engineers of Unger from Homberg, established that in one section of the pipeline, only a longitudinal positive locking pipe system could be considered, since former deep mining locations in the Borken-Stolzenbach brown coal mining area constitute an incalculable risk of mining subsidence.

In order to exclude the possibility of damage to the long-distance pipe, a clear decision was made in favour of ductile Buderus pipe with BLS® sleeve connections.

The installation company Feickert of Witzleben had no problems with laying the pipe. Minor course changes with angles of up to 3° were made without impeding the course of the construction work. Concrete supports were not necessary and all shaped components, which are also equipped with the BLS® sleeve system, were integrated into the section.

The "Wasserverband" is certainly "on the right side" in choosing this piping system because the highest pressure stages (max. 14 bar) also occur in the area subject to the greatest risk. The board and company management are convinced, with the decision for the BLS® system, that they have installed a sustainable element to ensure a continual fresh water supply.