

# NEWS

## DUCTILE IRON PIPE SYSTEM

Information from the European Association for Ductile Iron Pipe Systems · EADIPS®



### Editorial

Dear readers,

In this February 2012 issue of the Newsletter, you will find my reports on two installation projects involving pipelines for the supply of drinking water, prompted in the one case by a flood protection scheme and in the other by the need to improve the security of supply. Two other projects are concerned with the rehabilitation of water pipelines by replacement using the relining technique. These are all sustainable applications of ductile iron pipe systems.

Have an enjoyable and stimulating read,

Sincerely yours,

Raimund Moisa



### Re-laying of a pipeline – Crossing of the river Emme near Burgdorf

Following the severe damage in Burgdorf caused by the flooding of the river Emme in 2005 and 2007, the Civil Engineering Department of the canton of Berne placed a contract for the design and development of a flood protection scheme for the entire reach of the river lying within the urban area. This scheme envisages the deepening of the Emme in areas which are at risk. An existing ductile iron pipeline for transporting water therefore needed to be re-laid at a lower level in the region of the Wangelefluh weir.

◆ The specification for the new section to be installed was DN 300, PFA = 16 bar, K 9, to EN 545 and, like the existing drinking water transporting pipeline, it was laid using the vonRollecopur push-in jointed fully protected pipe system with integral polyurethane internal and external coatings. The section crossing the river is about 80 m long and was laid by the conventional open trench technique. The exposure of the existing pipeline allowed the vonRollecopur pipes laid in 1994 to be checked and assessed. Even after 18 years the state of the pipeline was still as good as new. The new section was connected into the existing infrastructure without a hitch using the tried and tested external thrust resistance systems and ductile iron fittings.

### Installation of a new water pipeline in the municipality of Bromskirchen

◆ To ensure a secure water supply for Neuludwigsdorf (in the Rothaargebirge mountain range in Northern Hesse in Germany), a new DN 100 pressure pipeline with an operating pressure of PFA = 25 bars needed to be laid from Bromskirchen to Neuludwigsdorf. The pipes installed were ductile iron pipes with TYTON® push-in joints and external protection comprising zinc-

aluminium and an epoxy finishing layer to EN 545. Where the pipeline has changes of direction, the pipeline was safeguarded according to the requirements of DVGW-Arbeitsblatt GW 368 by BRS® restrained push-in joints (TYTON SIT PLUS®). The 6 m long ductile iron pipes and the TYTON® push-in joints are able to accept angular deflections of up to 5° and allowed

flexible adjustments to be made to the pipeline in difficult terrain. Installation was completed within the deadline. The municipality of Bromskirchen is sure that, with this new pipeline, it will have a very secure supply and the pipeline will have a long operating life.





## Frankfurt am Main – the Sindlingen district Relining with DN 400 ductile iron pipes

◆ By the end of 2011, work had already started on the 4<sup>th</sup> section of the project known as “Replacement of the DN 700 steel transporting pipeline by relining with DN 400 ductile iron pipes” in the Sindlingen district

of Frankfurt am Main. The client is Netzdienste Rhein Main GmbH, the network operator for the energy and water supplier Mainova AG. Because of its straight route and the reduction in size which was possible, the 651 m long 4<sup>th</sup> section of pipeline was replaced by pipe relining under DVGW-Arbeitsblatt GW 320-1. The new pipeline is designed with a maximum design pressure MDP = 10 bars. The pipes installed for the project were DN 400 ductile iron pipes of wall-thickness class K 9 with a cement mortar lining

and cement mortar coating and BLS® restrained push-in joints. The joints were protected by rubber sleeves and sheet-metal cones. The new pipeline slid on its sockets as it was pulled through the old pipeline. The allowable tractive force was 650 kN and the assembly time for a pipe plus its joint was about 12 minutes; all in all a very economical process. Three pulling and installation pits were needed for pulling in the pipes. The runs pulled in were 55 m, 140 m and 283 m long.

## Ductile iron pipes make their debut on a trenchless project in Hungary

◆ Ductile iron pipes have been used for the first time for trenchless installation in Hungary. Where they showed their outstanding properties was on

a relining project in Budapest. In spring 2011, an old steel pipeline needed to be replaced on one of the city’s most heavily used roads. Installation in conventional open trenches would have caused major traffic problems. The solution was the relining technique (a trenchless technique) under DVGW-Arbeitsblatt GW 320-1. The pipes installed were DN 600 ductile iron pipes with BLS® restrained push-in joints and a cement mortar coating (ZM-U). Two small pits each measuring 8 m x 2 m were needed for the installation of the 200 m long pulled-in run. A Hungarian installing company carried out the installation work and the traction machine was bought by the Budapest Waterworks company and made available to the installing company. The easy handling of the



BLS® push-in joint and the ruggedness of the ductile iron pipes coated with cement mortar were definitely felt to be positive points. Other plus points were the full training given to the installing personnel and the ongoing on-site support provided by the pipe manufacturer. A further run is going to be replaced by the relining technique next year.

### Dates for your diary

**8 March 2012**

17<sup>th</sup> Thüringer Wasserkolloquium [Thüringen Conference on Water] 2012, Erfurt

**8–9 March 2012**

35<sup>th</sup> Dresden Conference on Hydraulic Engineering 2012, Dresden

**23–24 April 2012**

FIHB Conference for College & University Teachers 2012, Zürich

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