## **DUCTILE IRON PIPE SYSTEM**

Information from the European Association for Ductile Iron Pipe Systems  $\cdot$  EADIPS  $^{\circ}$ 



### Editorial

Dear readers,

In this September 2012 issue of the Newsletter, I would like to tell you about driven ductile iron piles used to stabilise an access road and about two water pipeline projects, one of which was to lay a new pipeline and the other to rehabilitate an old pipeline by replacement. A further project was concerned with the installation of thermally insulated ductile iron pipes at an historic spot. These projects demonstrate the versatility of ductile iron pipe systems.

Have an enjoyable and stimulating read,

Sincerely yours,

Riving

Raimund Moisa



# Driven ductile iron piles to stabilise an access road

There are many technical aids available for stabilising existing roads and tracks in difficult terrain and for building new ones. One of these is the pile system made up of ductile iron pipes. Its big advantage is that it can be used to withstand both compressive and tensile forces. The driven ductile iron pile is even able to absorb bending moments without any problems.

• This system provides the specialised underground construction industry with a complete solution whose advantages also include the fact that the driven ductile iron piles can be driven without the expense of separate equipment and without employing outside contractors. The equipment needed is a hydraulic excavator with an operating weight of 15 t to 22 t, a hydraulic hammer (breaker hammer) with a working weight of between 1,000 kg and 2,000 kg, and a driving adapter. The building of a new access road to a residential property in the Austrian municipality of Hintertux (in the Zillertal valley), as approved by the road-building department of the Tyrolean Regional Government, counts as a successful example of the economical use of driven ductile iron piles to stabilise a road. The static retaining system used was a crib wall, whose foot was supported by DN 118 / 7.5 mm driven ductile iron piles. The piles were driven to refusal, which happened at depths of around 5 m to 7 m because of the path followed by the rock bed.

### Securing the water supply to Altenbuch

• Altenbuch is a municipality in the Miltenberg district of Lower Franconia and comes under the control of the Stadtprozelten general administrative authority. The utility supplying Altenbuch with drinking water is the Zweckverband zur Wasserversorgung der Stadtprozeltener Gruppe.

To secure this water supply, a trunk main is currently being laid from the Breitenbrunn pumping station to the Altenbuch local network. 2,800 m of ductile iron pipes are being installed in open trenches along public field and forest footpaths and through private meadowland. The DN 100, K 10, PN 25 ductile iron pipes with restrained TYTON SIT PLUS<sup>®</sup> push-in joints (BRS<sup>®</sup>) are provided with a factory-applied cement mortar coating (ZM-U) as external protection. There is therefore no need for a sand bedding; the soil excavated is used as backfill.

The laying of the pipeline will be completed in July 2012. Once the trunk main has been connected to the new Altenbuch service reservoir, it will be possible for this new water supply pipeline to go into operation.



## Rehabilitation of the Goldinger pipeline at Hombrechtikon in the Swiss canton of Zurich

Some of the drinking water for the municipalities of Hombrechtikon, Stäfa, Männedorf, Uetikon and Meilen on the shores of Lake Zurich comes from a number of springs in the region of Goldingen in the canton of St. Gallen, which is six kilometres away from Lake Zurich. The spring water flows to the various municipal reservoirs by gravity through what is known as the Goldinger pipeline.

• The 28 km long DN 275 cast iron pipeline, which had caulked socket joints, went into operation in January 1912 after

taking, at the time, only a year (!) to install and it now needed to be replaced. A part of the pipeline having already been replaced between Stäfa and Hombrechtikon, the operations committee of the Wasserversorgung Goldingen-Meilen supply utility approved a rehabilitation plan envisaging a capital investment of CHF 22 million over a period of 30 years for the remaining 23 km of the spring water pipeline.

Early in the summer of 2012, a new pipeline for transporting the spring water of DN 300 von-Roll*ecopur* ductile iron pipes of wall-thickness



class K 9 was installed for a length of 840 m in three stages. These fully protected ductile iron pipes have an integral polyurethane (PUR) lining and coating to EN 545. The PUR lining is smooth and free of pores and this gives it excellent hydraulic performance for transporting drinking water. The PUR coating is classed as a reinforced coating under EN 545 and will withstand high mechanical loads and is also resistant to all types of soil. The entire run of pipeline was laid in a restrained form, using the flexible, reliable and easily assembled vonRoll*hydrotight*, Fig. 2806, restrained push-in joint.

#### **Dates for your diary**

#### **24–25 September 2012** 66<sup>th</sup> wat 2012.

Dresden

### 26 September 2012

7<sup>th</sup> German Symposium on Trenchless Pipeline Installation, Siegen

#### 26-27 September 2012

DWA (German Association for Water, Wastewater and Waste) 2012 Federal Conference, Magdeburg

#### Imprint

Issued by/Copyright: European Association for Ductile Iron Pipe Systems · EADIPS® / Fachgemeinschaft Guss-Rohrsysteme (FGR®) e. V. Im Leuschnerpark 4 64347 Griesheim, Germany Tel.: +49 (0)61 55/60 52 25 Fax: +49 (0)61 55/60 52 26 E-mail: info@eadips.org www.eadips.org Press date: 6 August 2012 Production: schneidermedia.de

## WKG pipes cross the former divide between the two Germanys

 There is hardly any spot which reflects the changeable course of German history as vividly as the bridge for services at the end of the Allee nach Glienicke road between Berlin and Potsdam Babelsberg. At the end of the Second World War, the bridge over the lake known as the Glienicker Lanke was blown up and, being in the border region when German was divided. was never rebuilt. An East German enclave on the West Berlin side was supplied by a services bridge. Almost a quarter of a century after re-unification, the water supply system has needed to be re-organised. The Potsdamer Wasserversorgung supply company has installed DN 200 thermally insulated ductile iron pipes

(WKG pipes) with BLS® pushin joints to cross the Glienicker Lanke at the bridge. The old water pipeline with flanged joints was easy to dismantle. Nor were there any problems about installing the easily assembled thermally insulated WKG pipes, which are protected by an outer shell of sheet metal. On shore, behind the old bridge abutments, the bends were quickly and safely connected to plain-ended pipe pieces, these all being part of the BLS<sup>®</sup> complete system.

This pipeline will be safeguarding the flow, and thus the supply of water whatever the pressure conditions and no matter how frosty the weather is.



Sustainably superior – ductile iron pipe systems