

NEWS

DUCTILE IRON PIPE SYSTEM

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



Editorial

Dear readers,

In this July/August 2012 issue of the Newsletter, I would like to tell you about two projects where water pipelines have been rehabilitated by replacement. Two other reports are concerned with the contribution that ductile iron pipe systems can make to environmental sustainability. One of them deals with the use of the HDD technique and the other with the installation of a new turbine pipeline. Ductile iron pipe systems – technically superior!

Have an enjoyable and stimulating read,
Sincerely yours,

Raimund Moisa



HDD with DN 600 ductile iron pipes – already a routine procedure in Berlin

It was the good experience with ductile iron pipes installed by the HDD technique on the “Berlin Tiefwerder” project that tipped the balance for Berliner Wasserbetriebe, Berlin’s water supply company, in their decision to use the technique to lay a new pipeline for raw water to the “Wuhlheide” inner-city waterworks. The waterworks is situated in the region of a wetland biotope and a drinking water protection zone.

◆ The client selected DN 600, K 9 ductile iron pipes to EN 545 with restrained BLS® push-in joints and a cement mortar coating for the 276 m long run of pipeline. After the drilling of the pilot bore and the upsizing operations required, the string of pipes assembled by pipe-by-pipe assembly was pulled in in just 12 hours. Helping the project to be a success were the instruction given to the installing personnel by the pipe supplier, the traction head supplied as part of the contract and all the accessories for joint protection. The pressure test was passed at the first attempt. The tractive force required was nowhere near the 152 t allowed nor did the full allowable angular deflection (2° per joint) have to be used.

Replacement of Wasserbeschaffungsverband Upland’s transporting pipeline

◆ The supply utility Wasserbeschaffungsverband Upland is replacing a length of some 3,100 m of the transporting pipeline serving the municipality of Willingen (in the Upland mountain region of Hesse). The pipeline affected is the Verband’s DN 200 water pipeline, including the control cables and empty ducts, in the region of federal highway B 251 and in the village of Welleringhausen. The existing transpor-

ting pipeline has to remain in operation during the installation phase. An emergency DN 200 water supply pipeline is needed for areas where the existing pipeline has to be bypassed for constructional reasons during the installation of the new pipeline. The pipes selected were ductile iron pipes to EN 545 with restrained BLS® push-in joints and a cement mortar coating to EN 15542. The operating pres-

sure is a maximum of 25 bars. Everyone involved in the installation work has been convinced by the speedy, simple and secure assembly of the joints, which do not require any thrust blocks at changes of direction. The rugged external protection allows the material excavated to be used as backfilling, so only a small amount of soil has to be transported away.



Construction of the new Ossasco small hydroelectric power station in Northern Tessin

The Valle Bedretto valley in Northern Tessin runs from Airolo at the foot of the St. Gotthard Pass up to the Nufenen Pass, the crossing point into the canton of Wallis. The CEL Bedretto SA company obtained consent from the canton of Tessin for the water of the Riale Cristallina to be used to generate electricity in a small hydroelectric power station for the Valle Bedretto.

◆ The water intake structure is at an altitude of 1,544 m above sea level and the turbine at 1,311 m above sea level in Ossasco. The turbine pipeline runs through rocky terrain and parts of it were anchored in the rock. The top section of the 354 m long pressure pipeline was laid in DN 600 vonRollecopur ductile iron pipes of wall-thickness class K 7 with vonRollecofit ductile iron fittings. Due to its low operating pressure of 5 bars max., this section was laid without thrust resistance systems. For the 575 m long bottom section of the pipeline, DN 600, K 9, von Rollecopur pipes of the restrained type with vonRollhydrotight, Fig. 2805, thrust resistance systems, and vonRollecofit fittings were used. The max. operating pres-



sure is 23 bars. The polyurethane coating of the *ecopur* pipes is classed as a reinforced coating under EN 545 and proved to be extremely rugged in this difficult terrain. The pressure pipeline system was subjected on site to a leak test at a test pressure of 32 bars for 24 hours. After a construction period of only 16 months, the small hydroelectric power station went into operation in June 2012. Its current output is 1,700 kW.

Dates for your diary

24–25 September 2012

66th wat 2012,
Dresden

26 September 2012

7th German Symposium
on Trenchless Pipeline Installation,
Siegen

26–27 September 2012

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

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Another section of the Auer Ring ring water main completed

◆ The water supply utility Zweckverband Wasserwerke Westerzgebirge in the German state of Saxony operates a trunk main to supply drinking water to the 140,000 or so inhabitants of 21 towns and other municipalities. A steel pipeline installed in the 50's was in a poor state and needed replacing. DN 400 ductile iron drinking water pipes to EN 545 of wall thickness class K 9 with the restrained BLS® push-in joint were used for this.

Because of the local conditions (sloping ground), ductile iron pipes with a cement mortar coating (ZM-U) to EN 15542 were installed. With these pipes, the material excavated can be used as backfilling even when it contains stone inclusions of grain sizes up to 100 mm. This type of pipe is economical because it allows



additional operations and transport work to be dispensed with. In view of the geodetic difference in height, the pipeline was designed for an operating pressure of PFA = 25 bars and it was tested at 30 bars before going into operation.

