

NEWS

DUCTILE IRON PIPE SYSTEM

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



Editorial

Dear readers,
In this November/December 2011 issue of the Newsletter you can read my reports on the installation of water pipelines by both open trench and trenchless techniques. Ductile iron pipes have been used for a number of applications, including the installation of a thermally insulated bridge pipeline, the replacement of a sewer in a high mountain range with ductile iron sewer pipes and the laying of driven ductile iron pile foundations for pylons for a high-voltage overhead power line. A variety of applications – all showing the advantages of ductile iron pipe systems! Have an enjoyable and stimulating read,

Sincerely yours, Raimund Moisa



The municipal water supplier Stadtwerke Mainz AG goes for ductile iron drinking water pipes

On the main road through the Kostheim district of the town of Mainz, some 200 metres from the banks of the river Main, two gas pipelines and a section of a drinking water pipeline around 350 metres long are being replaced.

◆ DN 300 K 9 ductile iron pipes with a cement mortar coating and BRS® restrained push-in joints with TYTON SIT PLUS® gaskets have been installed. The most compelling argument in favour of the installation of cement mortar coated ductile iron pipes was the durability of ductile iron pipe systems – which experience says is 100 years or more. Other considerations supporting this decision were the higher external loads and the corrosive soil. The operation began back in September 2010 but because of the difficult ground and the complicated re-routing of traffic – the installation work had to be done in five sections – this section was only completed in August 2011.

All the leak tests were successfully passed and the water samples met all the requirements of the German drinking water regulations (TrinkwV).

Prien am Chiemsee – A new water pipeline on the Bernauer Strasse

The water pipelines have had to be replaced on the Bernauer Strasse in the market town of Prien am Chiemsee in Upper Bavaria.

◆ This road, a federal highway, carries a lot of traffic and to avoid any major traffic disruptions the Rosenheim Highways Authority responsible for this busy road, required the operation to be done quickly: the work had to be completed within the school holidays.

Hence, 180 m of DN 150 ductile iron pipes to EN 545 with a cement mortar lining, restrained BLS® push-in joints and a cement mortar coating were pulled in by the trenchless horizontal directional drilling technique, being connected up pipe by pipe.

Trenchless installation proved economical. Both local residents and road users also benefitted from the fast connection and the time-saving pulling-in of the pipes. The entire operation took just a few weeks and was completed early in September, within the time allowed.



WKG ductile iron pipes used twice

Between Michendorf and Potsdam (in the state of Brandenburg), the Nesselgrund bridge, which takes a section of federal highway B 2 over a multi-track railway line, has had to be rebuilt.

DN 300 main drinking water pipeline from the old bridge is being run across this interim bridge.

This pipeline had to be of a frost-proof design. For this purpose, 80 m of DN 300 heat-compensating ductile iron pipes (WKG) were pulled on skids into a protective tube built into the interim bridge. The WKG ductile iron pipes are of wall-thickness class K 9 and are fitted with thermal insulation and external pro-

tection by a folded spiral-seam tube. Positive locking BLS®/VRS®-T restrained joints were needed for the pulling-in. The pulling-in and connection took less than a day.

Once the new bridge is completed, the temporary pipeline on the interim bridge will be dismantled and run across the new bridge. From an economic point of view, it is a complete success.

◆ In order not to restrict the heavy vehicle traffic carried, an 80 m long interim steel bridge has been built next to the old bridge. Until the new bridge is completed, the

The canton of Uri replaces a sewer with ductile iron pipes

◆ In an agricultural area dotted with holiday homes at an altitude of 1,500 m in the Eggberge area (near Altdorf), the replacement of a sewer was planned. Because of the difficult geology, the client, the

Abwasser Uri Aktiengesellschaft sewage company, opted for ductile iron pipes. In some parts, the bedrock was in bizarre formations.

785 m of vonRollgeopur DN 150 ductile iron pipes were installed. The pipes have a polyurethane (PUR) lining and a zinc/bitumen outer coating to EN 598.

Because of the specific installation position, it meant that the coefficient of roughness

of $k < 0.01$ was a crucial consideration. In the area where the pipes were bedded and enclosed in rocky backfill material, they were further protected by vonRollrock rock-protection material applied in the factory, this meant that all the excavated material could be re-used to backfill the trench.

The ductile iron pipe system selected gives a working life of more than 80 to 100 years.

DATES FOR YOUR DIARY

21–22 November 2011

16. Technisch-wissenschaftlicher ROHR-BAU-Kongress [16th Technical & Scientific PIPELINE INSTALLATION Congress], Weimar

26 January 2012

Tiefbauforum Neu-Ulm 2012 [Neu-Ulm 2012 Underground Construction Forum], Neu-Ulm

2 February 2012

3. Herrenberger Tiefbautag [3rd Herrenberg Underground Construction Day], Herrenberg

Imprint:

Issued by/copyright: Fachgemeinschaft Guss-Rohrsysteme (FGR®) e. V. · European Association for Ductile Iron Pipe Systems · EADIPS®
Im Leuschnerpark 4 · 64347 Griesheim/Germany
Tel.: +49 (0)61 55/6052 25 · Fax: +49 (0)61 55/6052 26
E-mail: info@eadips.org · www.eadips.org
Press date: 9 November 2011
Production: schneidermedia.de

Tension piles for an overhead power line in the Tyrol

◆ With end-bearing piles, the spigot end of the ductile iron pipe is driven into the pipe below it as far as the shoulder of the socket joint. With friction piles on the other hand, which achieve their load-bearing capacity with driving times of around 20 s/m, the spigot end does not necessarily need to rest on the shoulder. If the pile is to withstand tensile forces, additional reinforcement has to be installed in the form of rebars or a DYWIDAG GEWI bar. Tension piles give 50 % lower levels of skin friction than compression piles. This means that a pile calculated for a compressive load of 400 kN is able to withstand a tensile load of 200 kN. The tensile load is absorbed over the cross-section of the reinforcing system used. Foundations for pylons carrying a 110 kV power line belonging to Tiroler Wasserkraftwerke AG in the Tyrol have provided an impressive demonstration of this application.