



Vienna water: Springs, ducts and ductile cast iron pipes

Vienna's water comes from the Alps of Lower Austria and Styria. The headwaters of the First Vienna Mountain Spring Pipeline (Hochquellenleitung) are located in the Schneeberg, the Rax and the Schneealpe mountains, the headwaters of the Second Vienna Mountain Spring Pipeline are located in the Hochschwab massif. An almost complete circuit has been created by routing the Pfannbauern spring, located at the eastern branch of the Hochschwab, into the First Vienna Mountain Spring Pipeline. The two headwaters areas cover more than 600 square kilometres.

The water in the underground pipes, some of which are routed through mountains, travels to the city using the natural gradient without a single pump. The gravitational energy is even also used for electricity generation along the pipeline. The large spring area is a water protection zone, the spring water does not need to be treated.

The Pfannbauern spring

Vienna cares about its water which is why another spring was acquired in 1958, the Pfannbauern spring, located south of Gußwerk in Styria. A DN 700 pipeline, approximately 20 km long, was necessary to route the spring water into the Schneealpe ducts. The spring water is lifted approx. 70 m at the start of the Wetterin duct; the rest of the pipeline runs through three ducts, the 8.1 km long Wetterin duct, the 2.6 km long Lärchenstein duct and the shortest, the 1.2 km long Scheibling duct. The ducts were built between autumn 1986 and spring 1989. Operations of the Pfannbauern spring was approved with the resolution of 30 December 1988 to issue a licence under water law.

Duct renovation

Of course, the precious liquid must have an intact environment, so the Vienna water supply companies are documenting the current condition of the ducts and pipelines very accurately. This

showed that damage had been caused to the Wettering and Lärchenstein ducts by the rock pressure and aggressive waters.

It was therefore decided to carry out lasting repairs on the ducts to safeguard the quality of the spring water. The intricate renovation work began in 2007.

To secure their long-term future, the sections of the ducts that are already damaged, and those that look likely to suffer damage in future,

will be renovated with additional construction work. In order to carry out the work, the existing DN 700 AZ transport pipeline will be dismantled and disposed of over a total length of approx. 7200 metres. During this work, the construction company will complete the site facilities and erect the necessary water protection facilities. The duct construction work will focus on replacing the duct drainage in the eastern sections of the two ducts.

Secure pipelines for Vienna's water

When the comprehensive construction work is complete it will be curtain up for the ductile drinking water pipes, because the dismantled pipeline will be replaced with DN 700 pressure pipes, with K9 wall thickness, zinc coating with epoxy resin cover coating. 7200 metres of pipe must be delivered by the end of the year, or to put it another ways, around 100 deliveries or four to six lorry-loads each day, which will require meticulous logistical planning. Lorries have been rolling to the building site since the end of October - loaded with ductile drinking water pipes, so that the new pipeline section can be laid quickly, on which a 20 kV power and control cable will finally be suspended on cable trays.

