



Make things happen. **HOBAS®**

HOBAS® for a Positive CO₂ Balance

VOEST Alpine Sets on Hydro Power

The world's largest producer of rails and turnouts is VOEST Alpine Eisenbahn GmbH (VAEE). With its 700 employees it is also one of the largest employers in Zeltweg, Austria. A high demand on electricity is however necessary for the production so that the current high energy prices induced the management to look for a more attractive power source.

A hydro power station was erected on company property yet in cooperation with an existing small power plant of the company Penz at the estuary of the rivers Pöls and Mur. A total of 3 km pressure pipe DN 2400 were installed for the project. The 31 m head was calculated to produce a flow rate of 12 m³ per second. This asked for pipe material with high safety standards, and guaranteed leak tightness.



HOBAS CC-GRP Pipe Systems easily fulfilled all requirements. Since October 2008, HOBAS Pipe Austria has been delivering the unique HOBAS CC-GRP Pressure Pipe Systems including FW couplings to the new power plant Penz VAEE, which is operated by Mr. Rochus Penz, VAEE and the constructor Zotter.



The pipeline is installed in three phases, leading from the power plant Penz to the estuary of the rivers Pöls and Mur and finally to the power house on VAEE property.

The pressure line first runs through farmland and an adjacent housing area is bypassed along the river. Worthwhile mentioning is the installation of HOBAS Pipes beneath the river's groundwater level. Despite the depth, the pipe bedding was completely dry due to dense soil, which resulted in fast and cost efficient installation.

The first phase, from the intake works Penz in Aichdorf to the Pöls Bridge, was initiated October 1st 2008 and will be completed in March and on schedule. Between March and June 2009 and for the second construction phase, pipes will be laid from a railway bridge to the power house. The third phase is planned to run from June to September 2009, when the lines shall finally meet between the railway bridge and the Pöls Bridge.



The two planned Kaplan spiral turbines have an average output of 12.9 million kWh p.a., which corresponds to the electricity needs of 6,000 families of four. Because the VAEE itself currently needs 8 million kWh, the excess can be delivered to the public network once the plant is completed.

Not only does the power plant bring relief in terms of costs, also the production process of VAEE can be optimized. Since the method to heat the rails with gas in order to shape them proved to be dissatisfactory, they will in future be heated by induction (with electricity), which will assure 100% process safety.



This independent power supply not only ensures the long term continuance of the factory in Zeltweg but it also contributes to a positive CO2 balance of the company. The power plant is moreover built according to strict environmental regulations. For instance, a residual of 1,500 l water per second and up to 2,900 during the cold months is ensured and lies well above the requirements. With this, the plant has the largest amount of residual water in Styria – which works well for the benefit of the environment and fish population.

Overview	
Year of Construction	2008-2009
Total Length of Pipe	2997 m
Pressure Class	PN 2-5
Stiffness Class	SN 5000
Diameter	DN 2400
Installation Method	open trench
Application	HydroLine
Client	KW Penz GmbH
Contractor	Zotter GmbH
Advantages	quick installation, absolute leak tightness, low weight, corrosion resistance