



TRM pipes for Himmelreich hydroelectric power station

The picturesque village of Freienfeld is situated in the upper Eisack Valley in South Tyrol. To improve the energy supply to its 1100 or so households, Flans Energie GmbH has built a small hydroelectric power station with the lovely name of Himmelreich (“Kingdom of Heaven” in English) on the little river known as the Sengesbach. The construction took 12 months and it was commissioned in October 2008 and will have an annual output of 4,512 MWh. Himmelreich is what is called a “run of the river” hydroelectric power station, i.e. it has no reservoir because at any given time it processes, or rather uses, only a small proportion of the water that goes to form the river. This means that there is no interference with the natural flow of the water. The water intake structure and the desanding basin are underground structures and because of the powerful self-cleaning action of this type of intake the cost of maintenance is low. The head of water which is used to generate energy is 350 metres. The water is returned directly to the Sengesbach.

Ductile cast iron pipes of nominal sizes of DN 500 and DN 600 were used for the pressure pipe, which was laid underground. In the steep lower region of the penstock the pipes had to be moved to their destination, in weather which was sometimes very bad, on a goods-carrying cable car whose cable had been specially installed for the purpose. In the upper region, the route followed by the pipe ran almost entirely through rocky terrain. The pipe, whose overall length is 1,985 metres, is used not only for the power station but also for the sprinkler irrigations systems employed by the agricultural concerns in the surrounding area.

