

## Down in the Emirates

The government of Abu Dhabi is increasingly investing in the sewage networks of the city. Beside other materials, GRP pipes were specified for all sewers. To avoid the danger, disruption and mess associated with deep open cut works, the method of microtunneling was used for projects with exceeding laying depths of 10 meters.



The ground conditions were very poor and soil consisted of layered mudstone, gypsum and sandy-silt with a high ground water table. The total project was divided into several contracts, whereas the biggest part was realized by the local firm. This section consisted of approx. 24 km in a diameter range of DN 400 to 1800 and HOBAS received the order to

supply half of the project. HOBAS CC-GRP Pipe Systems were installed with a special concrete surrounding. The reason for the reinforced pipe is the tunnel boring machine, which has a certain diameter. The size of the machine does not have to be changed when the diameter of the GRP Pipe varies. The main reason why HOBAS CC-GRP Pipe Systems were taken was the smooth and highly corrosion resistant inner liner.

The advantages of HOBAS CC-GRP Pipe Systems were:

- The 1.5 mm thick pure resin liner is highly corrosion resistant and small scratches in the surface (caused by entering workers) are not significant.
- The outer layer of 85% sand and 15% resin is resistant to the alkaline reaction of any strength of concrete. In other projects, high cement concrete has affected other pipes in the past.
- The smooth and perfectly circular outer surface allowed a more easier and precise installation inside the concrete jacket.
- The extremely tight-fitting HOBAS Coupling is more suitable for this application than relatively flimsy simple rubber rings.

The contractor is fully satisfied with his choice and HOBAS CC-GRP Pipe Systems have been operating properly

Overview	
Year of Construction	2001
Length of Pipe	24 km
Pressure Class	PN 1
Diameter	DN 400 – 1800
Stiffness Class	SN 10000
Installation Method	Jacking
Application	SewerLine®
Client	Municipality of Abu Dhabi
Contractor	Gulf Tunneling Co. Consultants
Advantages	Smooth inner surface, easy installation in difficult soil conditions

