

# HOBAS® Case Study

September 2007

## Relining an Interceptor Sewer with HOBAS® CC-GRP Pipe Systems



An approximately 23-year-old reinforced concrete pipeline had been seriously damaged by corrosive industrial effluent. HOBAS® CC-GRP Pipe Systems PN 2.5 and SN 5000 were selected to rehabilitate the sewer, which of course had to meet the same structural requirements as a new stand-alone pipeline. Pipes with high resistance to chemical attack from industrial wastewater were required to guarantee a long service life for the new sewer. HOBAS® CC-GRP Pipe Systems meet these specifications: the polyester resin fully encloses the other two pipe material components and so only the

resin comes into contact with the media, resulting in high corrosion resistance. Furthermore, the extreme smoothness of the inner pipe wall (roughness coefficient 0.01 including the spigot) ensures an optimum flow rate in spite of the reduced pipe diameter after relining.

Before starting with the rehabilitation, the sections were taken out of operation and the wastewater was rerouted. The launch shaft for installing the new pipe system was approximately eight times two meters and reached down to the bottom of the old pipe. Standard HOBAS Pipes with a length of six meters could be easily inserted. The shafts



were located at bends or manholes of the old pipeline.



Then the old pipe in each entry shaft was cut open lengthwise and used as an insertion guide for the new liner pipes. Pipes were simply driven through manholes that were no longer required; manholes at pipeline bends were replaced with smaller HOBAS Bends or rehabilitated using HOBAS GRP.

HOBAS Manholes were connected where needed, while others were adapted or laminated on site.

Prior to relining, PE skids were mounted on the pipe spigots to prevent damage to the external pipe wall during insertion, to ensure a safe position and to minimize the floating effect when grouting. Then a liner pipe was inserted in the existing shell and pushed in with a hydraulic jack. The next length was joined in the entry shaft, jacked and so on, section by section.

The annular space between the old and new pipe was filled with grout. Grout enables the new pipeline to be fixed in place, prevents water and soil from penetrating, ensures stable bedding and permits outside loads to be distributed evenly. The filling also prevents defective sewers from



collapsing, stops the pipeline from floating and helps compensate any variations in length due to temperature fluctuations. A special material of the right consistency and viscosity was selected for the precision filling process.

Although the pipeline was almost 3 km long, it took less than four months to reline it, thanks also to the smooth outer surface of HOBAS® CC-GRP Pipe Systems.

<b>Year of Construction</b>	2001
<b>Duration of Construction</b>	< 4 months
<b>Length of Pipes Laid</b>	2950 m
<b>Pressure Class</b>	PN 2.5
<b>Diameter</b>	DN 600 – DN 900
<b>Stiffness Class</b>	SN 5000
<b>Application</b>	SewerLine®
<b>Client</b>	Stadtbauamt Frastanz
<b>Contractor</b>	ARGE Verbandssammler Frastanz, Rhomberg Bau & Rabmer Bau GesmbH
<b>Advantages</b>	high resistance to chemical attack from industrial wastewater extreme smoothness of the inner pipe wall

**For further information:**

HOBAS Rohre GmbH  
Werk Wietersdorf  
9373 Klein St. Paul  
Austria

Tel.: +43-4264-2852  
Fax: +43-4264-285245

Email: [hobas-rohre.austria@hobas.com](mailto:hobas-rohre.austria@hobas.com)