Genk's Albert Canal lock system comprises 2 locks of 150m in length (northern and central locks) and a third lock 200m long (southern lock). The central lock had suffered considerably from erosion, which had caused subsidence and significant cracking in the base slab and the side walls. The lock was taken out of service. With the expected increase in traffic in barge-borne containers between Antwerp and Liège, the local Department of Navigable Waterways decided to bring the central lock back into operation. Rehabilitation works...
were necessary to stabilize the lock structure. Soletanche Bachy and its subsidiary, Fontec, were chosen as general contractors for the job.

The lock was stabilized mainly through jet grouting work under the lock and by prestressing the side-walls, in the following stages:

- Drilling through the concrete structure using a Down The Hole (DTH) hammer.
- Grouting of voids and cracks in the structure and compaction grouting of compressible soil.
- Upstream cut-off of the groundwater circulation under the structure by installing a watertight curtain made of secant jet grouting columns 1,600mm in diameter.
- Jet grouting columns (double jet method) of Ø 800mm to Ø 1,200mm underpinning the lock structure.
- Vertical ground anchors (377kN) for prestressing the side walls and horizontal and subhorizontal anchors (300kN to 710kN).
- Minor civil engineering work for reinforcing the angles between the slab and the side-walls.

With the ground water exerting 10 to 12m of pressure on the slab, the structure was dewatered (300m³/hr.) before the jet grouting operation under the slab, to avoid having to work using an airlock.

The North and South locks remained in operation throughout the stabilisation work.