



HERRENKNECHT Press Release

October 04, 2012

XL TUNNEL BORING MACHINE FOR GDANSK.

Herrenknecht supplies a tunnel boring machine with a diameter of 12.56 meters for the construction of a road tunnel under the Vistula in Gdansk. In the middle of September 2012, in the presence of the Gdansk City President, the customer OHL and the project owner GIK (Gdańskie Inwestycje Komunalne) accepted the machine at its production site in south German Schwanau.

Schwanau, Germany, October 4, 2012. With its freight and ferry terminal and the airport, Gdansk is a major transportation hub in Poland as well as for connections from Scandinavia to Central and Eastern Europe. Now the new ten kilometer long "Słowacki route" is to improve the transport infrastructure in the greater Gdansk area – for more than one million people living in the metropolitan area as well. It links the "Lech Wałęsa Airport" with the highway to Warsaw and with the Gdansk deepwater seaport, one of the most important transshipment centers in Eastern Europe.

The "Słowacki Route« will pass under the Vistula with a twin tube tunnel with a total length of 1.4 kilometers. The tunnel tubes will each accommodate two road lanes and will be connected by seven cross passages for escape routes. For the construction of this major tunnel the building contractor OHL ordered a Mixshield with a diameter of 12.56 meters from Herrenknecht. In the middle of September 2012, in the presence of Gdansk City President Paweł Adamowicz, the Chairman of the municipal investment company GIK (project owner), Ryszard Trykosko, Poland country manager Jose Manuel Rubio Roeder from OHL and representatives of the Polish press, the XL machine was accepted at the Schwanau plant.

According to Herrenknecht project manager Peter Griesbach, a challenging advance under the Vistula awaits the machine and the jobsite crews: "At certain points there will only be about eight meters above the machine to the bottom of the river." The machine will be sealed against penetrating groundwater or subsoil at pressures of up to four bar: between shield skin and lining segment with a triple wire brush seal and a quadruple sealing system on the drive. The equipment was designed in such a way that tunnelling can also be carried out on the steep four percent downward and upward gradients at the beginning and in the second half of the tunnel respectively.

The Group subsidiary Herrenknecht Formwork produces the moulds in which the segments for lining the tunnel tubes are made. As a full-service provider in tunnel construction, at the customer's request Herrenknecht is also supplying additional equipment: the separation plant and the pumps for slurry circulation in the tunnel, the compressor station, the navigation system (VMT), the start-up construction and equipment for the material and personnel transport in the tunnel (MSD). Herrenknecht specialists will support the customer's personnel with service and equipment during on-site assembly of the machine and through to successful completion of the project.

Slowacki Tunnel Gdansk**Machine data**

Machine type:	Mixshield
Shield diameter:	12,560mm
Max. operating pressure:	4bar
Rated torque:	16,841kNm
Total weight:	2,200t
Total length:	91m

Project data

Application:	Roadtunnel
Project owner:	GIK Gdańskie Inwestycje Komunalne
Customer:	OHL Obrascon Huarte Lain S.A.
Tunnel length:	2 x 1,076m
Geology:	Sand, gravel
Overburden:	8 – 21.5m

Global road tunnel projects with Herrenknecht equipment (selection):

- 43 projects completed with a total length of 173 kilometers, an additional 16 projects planned or under construction with a total length of 58 kilometers
- 1997: 4th tube River Elbe tunnel Hamburg, Germany, Mixshield, Ø 14.20m
- 2000: SOCATOP A86 Paris East, France, convertible Mixshield, Ø 11.57m
- 2001: Lefortovo, Moscow, Russia, Mixshield, Ø 14.20m
- 2004: SMART, Kuala Lumpur, Malaysia, 2 x Mixshield, Ø 13.21m
- 2005: Madrid M30, Spain, EPB Shield, Ø 15.20m
- 2006: Shanghai Changjiang Under River Tunnel, China, 2 x Mixshield, Ø 15.43m
- 2008: Brisbane North-South Bypass Tunnel, 2 x Double Shield TBM Ø 12.34m
- 2010: Sochi Road Tunnel No. 3, Russia, Single Shield TBM, Ø 13.21m
- 2011: Galleria Sparvo, Italy, EPB Shield, Ø 15.55m
- 2011: Miami Port Tunnel, USA, EPB Shield, Ø 12.86m
- 2012: Shanghai Hong Mei Road, China, Mixshield, Ø 14.90m

OHL Group

OHL is one of the largest international concessions and construction groups. It boasts more than hundred years' experience and has significant operations in more than 30 countries across all five continents. The OHL Group is presently:

One of the world's largest concessionaire

One of the largest international contractors

world leader in hospital and railway construction

Largest private investor in transport infrastructure in Latin America

One of the World's references, technologically-wise, in the execution of tunnels

Currently, regarding such area of execution, the OHL Group is focused in the execution of the Replacement of the Existing Water Siphons between Brooklyn and Staten Islands, such work has been awarded by The New York City Economic Development Corporation, and the Toronto-York Spadina Subway Extension – Highway 407 Station and the Northern Tunnels, work awarded by Toronto Transit Commission (TTC).

Herrenknecht AG

Herrenknecht AG is the only company worldwide to deliver tunnel boring machines for all ground conditions and all diameters – ranging from 0.10 to 19 meters. The product range comprises tailor-made machines for traffic, supply and disposal tunnels as well as additional equipment and service packages. Herrenknecht also manufactures boring systems for vertical and inclined shafts as well as deep drilling rigs. The Herrenknecht Group achieved a total operating performance of 1,104 million euros in 2011, supplying 65 tunnel boring machines for traffic tunnels alone in that same year. All in all, Herrenknecht equipment has completed 1,900 kilometers of tunnels in large diameter ranges of over 4.20 meters since its establishment in 1977. The Herrenknecht Group employs around 4,000 people worldwide and trains more than 240 young people. With 77 subsidiaries and associated companies in Germany and abroad, Herrenknecht offers comprehensive services tailored to the respective project and contractor.