



Tunneling

Reference Details:

Owner ÖBB Infrastruktur Bau AG, Austria +++ **General Contractor** ARGE LT 31 - Mxing: Alpine Mayreder Bau GmbH, Salzburg, Austria, Beton- und Monierbau Gesellschaft m.b.H., Innsbruck, Austria und HOCHTIEF Construction AG, Essen, Germany +++ **Planning Agency** PGLT (Planungsgemeinschaft Lainzer Tunnel), Austria +++ **Engineering** IGT Geotechnik & Tunnelbau GmbH, Salzburg, Austria +++

DSI Unit ALWAG Tunnelausbau Gesellschaft m.b.H., Pasching/Linz, Austria

ALWAG Scope Among others Supply of IBO R32 and R38 Hollow Bar Bolts, IBI Self-Drilling Anchors with Post-Grouting Couplings, Lattice Girders, Lagging Sheets, Rebar Spiles, AT - Power Set Self-Drilling Tube Spiles, AT-76/DR and AT-118/DR Drainage System; Rock Drilling Equipment and AT - Mortar Mixing Pumps; Technical Assistance



Reinforcement and Support Systems for the Construction of the Lainzer Tunnel in Vienna

Lainzer Tunnel, Lot LT 31 - Mxing, Vienna, Austria

The Lainzer Tunnel is one of the most important projects now under construction as part of the development of the Austrian high-speed Railway System. This section in the west of Vienna will create the connection of the Western to the Southern Austrian Railway Section as well as to the "Donauländebahn". In addition, the Western Railway Section will be linked to the central switchyard at Wien Kledering. When this project is completed, the single-track connection between the Southern and Western Austrian Railway shall be relieved.

The projected railway section has a total length of 12.8 km, a 6.5 km portion of which is being constructed as a railway tunnel. Starting from three access shafts, the construction works on the double-track tunnel with twelve safety exits are being accomplished. The lot LT 31 - Mxing

extends from the western area of the Lainzer Straße access shaft to the eastern connection points of the project area. Construction works on the lot LT 31 - Mxing started in the summer of 2005 with the erection of the site infrastructure, the sinking of the Lainzer Straße shaft started in January 2006. Since October 2006, the construction of the tunnel in eastern direction is in progress. The completion of the Lainzer Tunnel is planned for the end of 2011.

The construction of the Lainzer Tunnel is greatly influenced by difficult ground conditions, as part of the tunnel is excavated in unconsolidated rock formations. To overcome the difficulties of groundwater handling during tunnel construction, the groundwater level is being lowered by intensive pumping through wells, controlled by a sophisticated monitoring system.

ALWAG is the exclusive supplier of reinforcement and support systems for the LT 31 - Mxing construction site. Special products such as the AT - Drainage System are being used as accompanying arrangements for groundwater handling in critical areas. The accomplishment of the drainage drilling operations is supported by experienced technicians from the ALWAG supervision team. Lagging sheets and spiles are used for the reinforcement ahead of the tunnel face. To overcome challenging ground conditions, the particular IBI Self-Drilling Anchor System is being installed. The prime advantage of this anchor is the possibility to accomplish systematic re-injections via special post-grouting couplings. Thus, an optimum ground improvement is ensured.