



DSI References

Owner Concession company
Túnel San Cristóbal S.A.,
Santiago de Chile, Chile +++
General Contractor Joint Venture
consisting of Hochtief PPP
Solutions GmbH, Essen,
Germany and ACS/Dragados S.A.,
Madrid, Spain

DSI Unit DSI Austria,
Pasching/Linz, Austria

DSI Scope Supply of 20,000m of
AT-114 and 10,000m of R32/ R38
and R51 IBO Self-Drilling
Anchors; supply of injection
pumps and supervision of
installation on site



Short Cut with DSI: Construction of the San Cristóbal Tunnel in Santiago de Chile

The 880m high Cerro San Cristóbal hill dominates Santiago's cityscape. Although the hill is a popular lookout, it also represents a natural barrier that made a direct connection between the northern districts of Huechuraba and Recoleta and the southern district of Providencia difficult.

To alleviate this problem, construction work has begun on two parallel tunnels leading through Cerro San Cristóbal. The tunnels will create a more efficient connection between the northern districts and the southern business center of the city and considerably shorten the travel time between the individual districts.

The El Salto Tunnel is part of Santiago de Chile's City Highway. This motorway was widened from two to three lanes in each direction in order to alleviate traffic congestion on Santiago de Chile's road network. At the same time, it is part of the world famous PAN AMERICANA Highway that runs from Tierra de Fuego to Alaska.

The approximately 4km long toll road through Cerro San Cristóbal serves as an important feeder road to the toll road. Each of the tunnels is 2km long and is 9m in diameter. DSI was involved in the construction of this new tunnel. The company supplied more than 20,000m of its AT-114 Pipe Umbrella Support System for tunnel advancement. The AT Pipe Umbrella Support System is used to stabilize the tunnel front and the geologically difficult zones in the tunnel's interior. It reduces settlements and minimizes deformation of the rock mass during the excavation of the tunnel.

In addition, DSI supplied more than 10,000m of R32/ R38/ R51 Self-Drilling Anchors. This system consists of special hollow bar anchors with a continuous cold rolled thread on the outside that are especially suitable for use in geologically unstable rock mass. The hollow bar anchor also serves as a drill rod, thus facilitating shorter installation times as well as optimizing machinery requirements and operating times. DSI also supplied injection pumps for both products and supervised on-site installation.

Due to the efficient and competent co-operation of everyone involved, the project advanced quickly. In the summer of 2008, part of the new tunnel route was inaugurated and successfully tested.

