

Amsteg Section 252, Switzerland

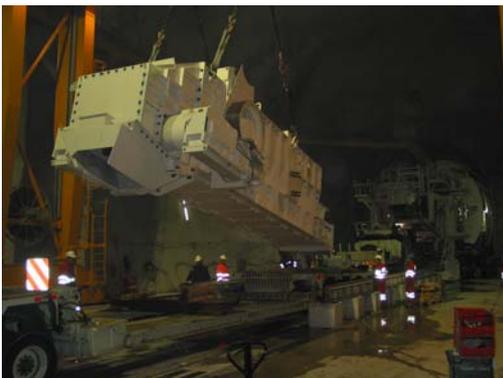
2 back-up system to Gripper-TBM: Year of construction 2002



Back-up system

Project and Objective

Whilst the tunnel boring machine and the back-up system are usually supplied together by the manufacturer of the tunnel boring machine, Arge AGN Murer-Strabag AG/Strabag AG preferred to place the order for the back-up system directly with Rowa. This has proven to function perfectly. The interface problems could be managed without any difficulties, and the contractor had an experienced logistics partner available.



Rock crusher

Project data

Country	Switzerland
Client	AlpTransit Gotthard AG, Luzern
Building Contractor	Arge Amsteg, Murer-Strabag AG/Strabag AG, Erstfeld
Order to Rowa	Delivery of two high-performance back-up installations to Gripper-TBM
Assignment to the back-up installations	Supply and removal of a high-performance TBM-excavation
Forwarding length	2 x 11'350 m
Outbreak diameter	9.5 m
Forwarding	Gripper-TBM
timbering and walling	Shotcrete with local concrete shell

The customer's opinion

Dipl. Ing. Hans A. Treichl, Strabag AG



„AGN and Rowa have together developed a highly mechanized complete system, which has been perfectly adapted to the construction processes. Rowa has proven to be a highly competent and efficient partner for the solution of all logistics problems. Also the assembly and the start-up were carried out expertly and within the given time limits.“

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Assembly

The conception

High-performance Back-up Installation

In close cooperation with Arge AGN, Rowa developed the back-up system for the tunnel boring machine. A suspended monorail railway makes it possible for the material to be transported without transloading from the supply train to its destination. Thanks to the suspended platform and a double-track rail service up to the invert construction area, the invert can be built at the same speed as the advance progresses. A longitudinally movable shotcrete robot with a 360° working area applies shotcrete support to the excavated section.

Supply logistic

The flow of material and equipment needed for the tunnel completion up to the area behind the tunnel boring machine is taken care of essentially by two cranes: an area crane moving underneath the back-up installation and a monorail crane above the back-up installation, running on a suspension rail on the tunnel crown.

Suspended Platform

The tunnel invert is being constructed simultaneously with the advance. A suspended platform bridges the invert construction area. Thanks to the working area being clear the operations can take place in a flexible and efficient way, independent from the advance. The length of the suspended platform has been optimized, working together with the customer, for the planned performances and work processes.

Invert construction area

A suspended platform bridges the invert construction area.



Monorail

Technical data back-up installation

Covering diameter of the back-up inst.	8'300 m
Length of the back-up installation	440 m
Weight of the back-up installation	about 850 t
Weight of the back-up installation	about 1200 kW
Removal by	tunnel conveyor
Supply	back-up-inst. independent monorail area crane



Invert construction area