



# **B10 ROSENSTEINTUNNEL**

## **STUTT GART (DE)**

### **CLIENT**

Landeshauptstadt Stuttgart, Tiefbauamt,  
DE-70176 Stuttgart

### **DESIGNING ENGINEER AND SITE SUPERVISION**

WBI Prof. Dr.-Ing. W. Wittke, Beratende Ingenieure für  
Grund- und Felsbau GmbH, DE-69469 Weinheim

### **IMPLEMENTATION PLANNING**

Bernd Gebauer Ingenieur GmbH, DE- 80687 München

### **TIME OF COMPLETION**

05.2014 – 10.2020

### **CONTRACT SUM**

CHF 115 Mio. (€ 101 Mio.)

### **EXECUTION OF THE WORK**

ARGE B10 Rosensteintunnel

### **CONSORTIUM PARTNERS**

Marti Tunnel AG, CH-3302 Moosseedorf  
Marti GmbH Deutschland, DE-70567 Stuttgart  
WOLFF & MÜLLER Spezialbau GmbH & Co. KG,  
DE-70435 Stuttgart

### **TECHNICAL AND COMMERCIAL LEAD**

Marti GmbH Deutschland, DE-70567 Stuttgart

### **TECHNICAL MANAGEMENT TUNNEL**

Marti Tunnel AG, CH-3302 Moosseedorf

# B10 ROSENSTEINTUNNEL

## STUTTGART (DE)

### WORK DESCRIPTION

The 1'500 m long construction lot comprises the Rosenstein tunnel as well as channel shifting -dismantling of old channels and new construction and transportation infrastructures.

The Tunnel is executed using conventional methods (shotcrete with cast in place concrete lining) with two parallel-aligned tunnel tubes.

The project consists of the geotechnical works of the construction pit and slope support as well as injections and the excavation and rock support of the rock tunnel. In addition, concrete and inner lining steel works cut and cover construction and the operation buildings are also part of the project. The inner lining construction is realized with waterproof concrete.

A total of 5 cross connections are planned in order to connect the two, 25 meter distant parallel tunnels. Hereof, 4 cross connections are to be built for pedestrians and 1 for vehicles. Furthermore, the tunnel length requires the location of two emergency niches which are placed around the middle of the tunnel.

### Construction and time schedule

The tunnel tubes are developed as a double lined vault construction with a shotcrete lining and a concrete inner lining. The cross connection accounts 110 m<sup>2</sup> and in the emergency niches area 145 m<sup>2</sup>. The tunnel is driven by an access tunnel from east to west with a max. gradient of 4%.

### Facts and figures

Construction lot length:

- Open construction pit Pragstrasse 155 and 255 m
- Rock tunnel 2 x 740 m
- Open construction pit Neckartalstrasse 50 and 70 m
- Excavation volume 170'000 m<sup>3</sup>
- Concrete-/ shotcrete volume approx. 137'000 m<sup>3</sup>
- Reinforcement steel approx. 9'700 t
- Construction method sprayed concrete lining  
excavation method  
(mechanical advance with  
top heading and bench/ invert excavation)

### SCOPE OF THE WORKS

B10 Rosensteintunnel, Stuttgart

Roadtunnel

### GEOLOGY

- Lettenkeuper (lower Keuper)
- Depleted GipskeuperQuaternarytop layers
- Filling deposits



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**Marti Tunnel AG**

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