

BRENNER BASE TUNNEL



Brenner Base Tunnel, Innsbruck, Austria

The Brenner Base Tunnel (BBT) represents a direct subsurface link between Austria and Italy. It runs from Innsbruck (Austria) to Fortezza (Italy), with a total length of 64km (incl. Innsbruck railway bypass).

Scope

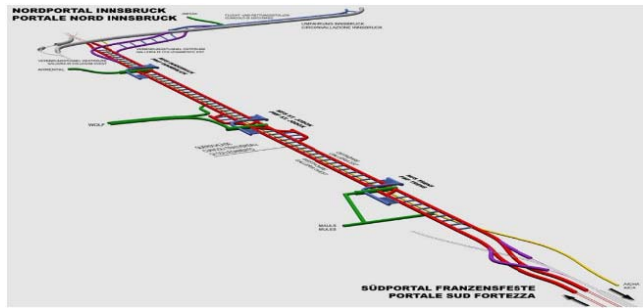
- Length: 55 km, resp. 64 km, incl. Innsbruck railway bypass
- Max. overburden 1'500 m
- TBM Excavation
- Two parallel, single-track railway tunnels
- Exploratory gallery full length, cross-passages, two emergency stops
- Intermediate access points in Ahrental, Wolf and Mauls
- Cut-and-cover & mined tunnels in portal areas

Challenges

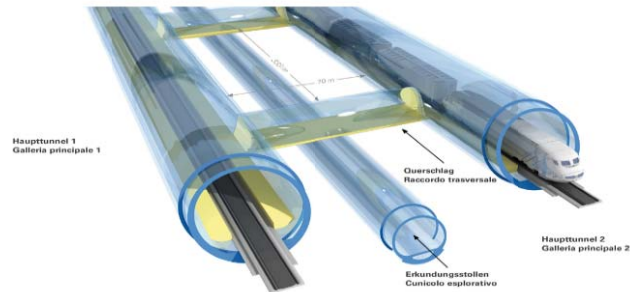
- Geology, formations with varying rock strength
- Water ingress in vicinity of fault zones
- High overburden
- Logistics

Amberg Services

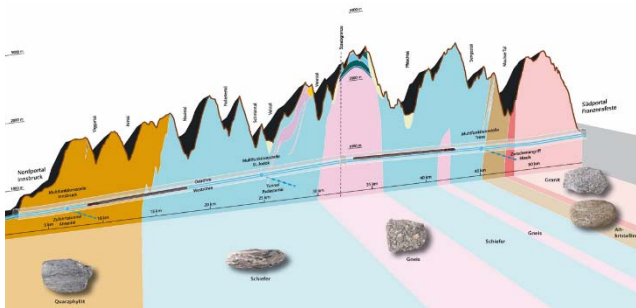
- Following works at the Austrian side in JV
- Basic Design
- Tender Design
- Final Design
- Geotechnical Site Supervision
- Lead in Design JV



■ Schematic view of the Brenner base tunnel



■ Twin tube concept showing exploration gallery



■ Simplified geological profile for base tunnel

AMBERG FACTS

Contract value Amberg

- Total 5.5 Mio. €

Project Phases & Duration

- Basic Design Since 2014
- Geotechnical Site Supervision 2017 – 2025
- Tender Design 2015 – 2017
- Construction 2017 – 2025
- Commissioning approx. 2026

Project Details

Exploration Gallery

- Exploration gallery in the centre of the twin single-track railway tunnels
- Diameter approx. 6 – 7 m and 12 m lower than the twin tubes
- Main purpose of the gallery is the geological exploration and drainage as well as maintenance purposes at later stages as required

Twin single track tunnels

- Length 55 km
- 2 Single track railway tunnels
- Parallel distance 70 m
- Heading mainly by TBM, diameter 10.5 m

Additional Constructions

- Cross-passages every 333 m
- 3 access galleries for logistic purposes during construction, ventilation purposes and as emergency access
- 1 Tunnel intersections for track changes
- 3 emergency stations with excavation galleries

CLIENT FACTS

Overall costs

- Total 9 billion €

Overview Project

- Direct railway link between Austria and Italy
- Tunnel length 64km incl. railway bypass of Innsbruck
- Two parallel, single-track railway tunnels

Geology

In Austria the main lithological units are:

- Innsbruck quartz phyllites
- Bündner Schist
- Central gneisses

Contact person

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