



Bridge
Construction

Whatever you wish to bridge

Our range in bridge construction



Bridge Construction



At the Core of Construction. Worldwide.

Founded in 1965 as a small construction machine dealership, ALPINE is now one of the leading construction groups in Europe. Today, our name is synonymous with state-of-the-art know-how, extreme flexibility, tailor-made solutions and the use of the latest in material and equipment. We cover the entire spectrum of construction output with competence in every single sector and complete projects of any kind and size reliably and on time in more than 30 countries. In doing so, we are committed to each project as if it were the only project we had.

The classic construction activities are complemented by a number of services

in project administration, planning and financing. Our intensive commitment to R&D is to ensure the highest possible quality in future constructions and secure our leading position in construction procedures and material.

ALPINE's success is based on the motivation and qualification of our employees. High investments in training of employees and our above-average commitment in safety at work are witness that we take responsibility for our employees seriously. Responsibility for people also means responsibility for the environment. Part of our company culture is a careful use of natural resources.

PORTFOLIO ALPINE GROUP

- Bridge Construction
- Building Construction
- Energy
- Environmental Engineering
- Foundation Engineering
- Power Station Construction
- Railway Construction
- Road Construction
- Sports Facility Construction
- Underground Construction



**Danube bridge
Traismauer / AT**

Type: Reinforced concrete bridge
Construction period: 2007 - 2010
Order value: € 48.73 million

04



Beska bridge / RS

Type: Reinforced concrete bridge
Construction period: 2008 - 2011
Order value: € 33.8 million

05



Niederwartha / DE

Type: Cable-stayed bridge
Construction period: 2006 - 2008
Order value: € 12.1 million,
ALPINE part € 6.17 million

06



Project Y / AT

Construction period: 2006 - 2010



Oder bridge / DE

Construction period: 2007 - 2008

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FURTHER REFERENCE PROJECTS

- Stampfgraben bridge / AT // reinforced concrete br./arch br.
- Metro U2/9 Donauspital / AT // reinforced concrete bridge
- Metro bridge Salzburg / AT // reinforced concrete bridge
- Skywalk Spittelau / AT // steel br./composite structure br.
- Wiener Linien U2-4 fairground / AT // reinforced conc. br.
- A1 valley bridge Wolfsgraben - Brentenmais / AT
- Domovinski Most Zagreb / CR // cable-stayed bridge/
reinforced concrete bridge
- Jablunkov - bypass bridge / CZ // steel composite bridge
- Gerbergrundtal bridge / DE // special type of bridge
- Kennedy bridge Bonn / DE // steel bridge/composite
structure bridge
- Maintal bridge / DE // reinforced concrete bridge
- Unstruttal bridge / DE // reinforced concrete bridge/
composite structure bridge

Please visit our website for more information on ALPINE.

► www.alpine.at



Crossing at the top

Bridge construction demands the very best in civil engineering and is a challenge to continuously use the latest technologies and integrate new methods and materials into the processes.

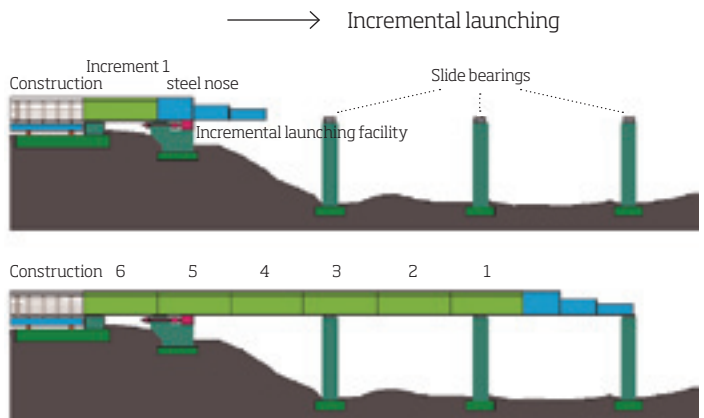
Highly trained and experienced teams ensure top quality in bridge construction as they form important segments in infrastructure, be it spectacular steel or reinforced concrete bridges, prestressed concrete bridges, cable-stayed bridge or arch bridges.

Quite often this requires unusual and special solutions to match individual requirements and situations. This ranges from crossing huge spans to construction works based on swimming platforms to special excavations or concrete work under water.

INNOVATIONS

INCREMENTAL LAUNCHING

The construction of the superstructure occurs section by section behind an abutment - it happens in what is called an „incremental launching facility“. A finished bridge section is moved across premanufactured piers to construct the next section (increment).



SUSTAINABLE BRIDGE-DESIGN METHOD

Steel bridges have an almost indefinite service life if concrete steel is not used. This construction method is suitable for small to medium-sized bridges.

THE THREE LONGEST BRIDGES IN THE WORLD

54,000 m

Bang Na Expressway / Thailand

Completion Date: 2000

38,422 m

Lake Pontchartrain Causeway / USA

Completion Date: 1969

36,000 m

Hangzhou Bay Bridge / China

Completion Date: 2007

Source: de.wikipedia.org



Danube bridge Traismauer

ALPINE constructs the Danube bridge at Traismauer. It is the heart of a new road link between the Kremser dual carriageway S 33 and Stockerauer dual carriageway S 5. The contract sectionz

Large Bridges Danube bridge

including two foreshore bridges covers the Danube bridge itself as well as two foreshore bridges north and south of the river - a section of more than one kilometre in length.

The bridge piers are **concreted while floating** and **newly developed cantilever construction carriages** are used to install the bearing structure.

SPECIAL FEATURES

- ▶ For the first time bridge piers are concreted with a special construction between two ships and not ashore. The **water's uplift carried the final concreted pier shells.**
- ▶ The supporting formwork of the bridge is constructed piece by piece in the classic cantilever construction method about **20 m above the water. For the first time in Austria**, ALPINE uses newly developed cantilever construction carriages for the construction of the supporting formwork.

PRESTRESSED CONCRETE BRIDGE



LOWER AUSTRIA / AUSTRIA

Total length: **1.1 km**
 Overall width: **31.50 m** (*Exterior edge beams - outside*)
 Bridge deck area: **37,000 m²**
 Bored pile \varnothing 1.20 m: **10,000 m**
 Concrete: **55,000 m³**
 Reinforcement: **7,000 t**
 Internal pre-stressing steel: **650 t**
 Construction period: **2007 - 2010**
 Order value: **€ 48.73 million.**





Beska bridge

ALPINE constructs the currently longest (2.2 km) bridge across the Danube between Novi Sad and Belgrad near Beska. The design-build contract includes the planning and construction of this new Danube bridge that is part of the complete development of the E 75 (between Belgrad and the Hungarian

border) and consists of 4 carriageways. The bridge will span the Danube will spans of 60 m + 105 m + 210 m + 105 m + 60 m. This prestressed concrete bridge built in the cantilever construction method has one of the longest spans in the world.

Three different bridge construction-methods are combined – **cantilever method of construction, feeder method** and the heavy **centring method**.

SPECIAL FEATURES

- ▶ First, the bridge piers will be constructed and anchored with poles (diameter 120 cm, length 35 m). Next, the left foreshore bridge will be concreted in sections of 45 m using a formwork carriage. The construction will progress in single-cell, pre-stressed box girders. This construction method allows construction **independent of the many months of flood in the wetland** (nature protection area).
- ▶ The new bridge is being constructed right next to the unstable 30-year-old and to be reconstructed Beska bridge – **distance in the river only 3 metres**.
- ▶ The superstructure of the right-hand side foreshore bridge will be constructed with a ground-supported rig across the slippery foundation soil at a height of up to 40 m.

PRESTRESSED CONCRETE BRIDGE



SERBIA

Reinforcement: 10,000 t

Concrete: 62,000 m³

Prestressed steel: 1,000 t

Sheet pile walls: 2,500 t

Scour protection: 50,000 t

Bored pile ø 1.20 m: 14,000 m

Bridge deck area: 33,300 m²

Construction period: 2008 - 2011

Order value: € 33.8 million





Elbe bridge Niederwartha

Until the road construction project on the S84 from Niederwartha (Dresden) to Meißen was started, there had literally been no connection between Cossebaude and Radebeul/Coswig since 1945.

As part of this project a new bridge is being constructed, parallel to the existing railway bridge.

The **two-legged pylon** is the largest of five bridge pillars with diameters of **2.5 m x 3.5 m**.

SPECIAL FEATURES

- ▶ This is the first cable-stayed bridge in Saxony and the longest cable-stayed bridge in Germany constructed in the composite construction method and has a total length of 366 m and a 77 m high pylon.
- ▶ The pylon provides interior access for regular inspections through ladders and platforms. Loads and tools for maintenance work can be transported by way of a freight elevator located inside the pylon above water level.
- ▶ The span in the centre of the bridge is 192 m.

CABLE STAYED BRIDGE



SAXONIA / GERMANY

Bridge deck area: 4,575 m²
 Effective span: 22 - 23 - 23 - 23.5 - 192 - 82.5 m / Pylon height: 77.25 m
 Reinforcement: 1,459 t
 Bridge length: 366 m (superstructure)
 Construction height superstructure: 2 m
 Construction period: 2006 - 2008
 Order value: € 12.1 million
 ALPINE part: € 6.171 million





Bridge constructions of Project Y

PPP Easter Region Package 1

A total of 76 bridges have been built as part of the 51 kilometre long motorway and dual carriageway. The largest objects are two 6-section T-beam bridges with pile foundation across the river Weidenbach and the river Pellendorfer Bach. They are 158 m and 155 m long, have a maximum width of 31 m and are constructed up to 13.5 m above ground.

SPECIAL FEATURES

- ▶ A very noticeable point above the motorway is a right-angled T-beam bridge with a length of 81.5 m and a height of 12 m.
- ▶ The S1 goes below the railway lines by way of trough constructions. To achieve this, railway bridges are being constructed for the existing railway lines. This requires the temporary deviation of railway lines.

OTHER BRIDGES



AUSTRIA

Total number of bridges: 76

Motorway and dual carriageway bridges: 33

Overpasses: 20

Bridges across country roads and farm roads: 10

Bridges for wildlife crossings: 9

Modification of existing bridges: 4

In part, bridges are being constructed **without interrupting traffic.**



Oder bridge

Within a record construction period of about ten months a 443 m long, two-lane railway bridge has been constructed across the river Oder at Frankfurt (Oder), located in the county of Brandenburg.

A bottleneck has been removed by this new railway bridge for the transportation of goods and public traffic in the European East-West-connection between Warsaw and Berlin.

SPECIAL FEATURE

- ▶ This new bridge across the river Oder has a total span of 443 m and subdivides into a foreshore bridge (prestressed concrete box girder) on the German and Polish side and a bridge across the river (network arch bridge) to cross the river itself.

NETWORK ARCH BRIDGE



FRANKFURT/ODER / GERMANY

Bridge deck area: 5,100 m²

Effective span: 3 x 59 m; 3 x 62 m; 48.70 m; 31.30 m

Steel composite: 1,100 t

Track construction: 1,050 m

Overhead contact lines: 850 m

Construction period: 2007 - 2008

Order value: € 17.98 million

ALPINE part: € 7.192 million

The bridge had to be closed for **only two months.**



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