



Building  
Construction

No matter how high you wish to climb

**Our range in building 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



### HOCH ZWEI PLUS ZWEI / AT

Type: Office building  
 Construction period: 2007 - 2009  
 Order value: € 97 million  
 including building services

04



### Petrom City / RO

Type: Office building  
 Construction period: 2008 - 2010  
 Order value: € 117.6 million

05



### Oberlaa thermal spa / AT

Construction period: 2008 - 2011



### Holzhafen West & Kristall / DE

Construction period: 2008 - 2011

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### Empire Riverside / DE

Construction period: 2005 - 2007



### Lentos Museum of Art / AT

Construction period: 2000 - 2002

07

#### FURTHER REFERENCE PROJECTS

- Wissensturm Linz / AT // City library
- Terminal Tower Linz / AT // Office building constructed in the passive-house style
- Power Tower, Linz / AT // Office building
- Vienna Twin Towers / AT // Office, restaurant, cinema
- HOTEL ZWEI, Vienna / AT // Hotel
- Europark II, Salzburg / AT // Shopping centre
- Wolkenturm Grafenegg / AT // Open-air stage
- University of Applied Sciences Salzburg / AT // University of applied sciences & campus
- Villa Kennedy, Frankfurt/Main / DE // Hotel
- 3 Türme, Bratislava / SK // Housing estate

Please visit our website for more information on ALPINE.

► [www.alpine.at](http://www.alpine.at)



## Right to the top

The building construction business area is involved with housing, commercial and industrial buildings, office and parking buildings, museums, hospitals, the construction of thermal springs and baths, hotels, administrative buildings and shopping centres. ALPINE has a wide range of experience in the revitalisation of inner city areas.

Customers appreciate our technical skill, the high quality and reliability and our perfect adherence to schedules. Our decades of experience in building construction make us a sought-after partner for national and international projects of any size.

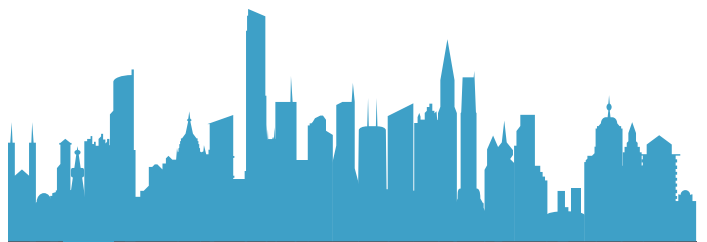
### STATE-OF-THE-ART TECHNOLOGY

#### CLASSIC OR MODERN - TO NEW HEIGHTS WITH ALPINE

With the appropriate expertise and experience, we implement different construction methods, from the classic steel construction to building construction with modern building materials. Unique designs and innovative architecture are an enormous challenge. Our specialists in building construction solve these special tasks with state-of-the-art know-how and flexible construction methods. This made them tried and tested partners for the implementation of building constructions of any type and size.

#### ENVIRONMENTALLY FRIENDLY BUILDING METHODS SAVE ENERGY

Glass facades with sandwiched Venetian blinds are the latest specialist solution with a high energy-saving potential when it comes to provide shading. These systems can be used up to a blind height of 3.6 m. The minimum service life is 10 years. This corresponds with the usual duration that facades, constructed in this method, are used. This sun protection system also supports the direction of light into a room to achieve an adaptive room climate.



## ABSOLUTE HEIGHTS

### THE 10 TALLEST SKYSCRAPERS IN THE WORLD

Building / City	Height	Floors	Year of construction
Burj Khalifa / Dubai	828 m	189	2009
Willis Tower / Chicago	527 m	110	1974
Taipei 101 / Taipei	508 m	101	2004
World Financial Center / Shanghai	492 m	101	2008
Intern. Commerce Centre / Hong Kong	484 m	118	2009
John Hancock Center / Chicago	457 m	100	1969
Petronas Towers / Kuala Lumpur	452 m	88	1998
Empire State Building / New York City	449 m	102	1931
Guangzhou West Tower / Guangzhou	438 m	103	2009
Jin Mao Tower / Shanghai	421 m	88	1998

Source: de.wikipedia.org / 10.2009



## HOCH ZWEI PLUS ZWEI

The two office towers 'HOCH ZWEI PLUS ZWEI' (POWER OF TWO PLUS TWO) are located right in the middle of the urban development area 'VIERTEL ZWEI' (DISTRICT TWO) which is the second Viennese municipal district.

The office tower 'HOCH ZWEI' impresses with its concave-convex architecture, its transparent glass structure and is the most noticeable building in the entire area. HOCH ZWEI and PLUS ZWEI are connected by a passage way.

**HOCH ZWEI:** 75% of rentable space is naturally lighted.

**PLUS ZWEI:** The **80 ton steel pergola** was put in place with a mobile crane.

### FEATURES HOCH ZWEI

- ▶ The **floor plan increases by 1.35 m** on every floor - in this way the building **widens across 23 floors** from bottom to top.
- ▶ The majority of pillars are **slanted differently**.

### FEATURES PLUS ZWEI

- ▶ The construction separates into **two beams (A+B)** from the 4<sup>th</sup> floor up and is again joined at the roof by an **80 ton steel lattice formwork construction**.
- ▶ The facade covers an area of **11,500 m<sup>2</sup>** and has been constructed with different facade types, e.g. **element facade systems, post and beam construction and structural glazing**.

### OFFICE BUILDING



### VIENNA / AUSTRIA

Exterior area: 25,000 m<sup>2</sup>

Construction period: 2007 - 2009

Order value (HOCH ZWEI PLUS ZWEI): about € 97 mill. (incl. building services)

**HOCH ZWEI:** Height: 85 m; ground floor + 23 upper fl.; rental area: ca. 27,000 m<sup>2</sup>

**PLUS ZWEI:** Height: 46 m incl. steel pergola; ground floor + 8 upper floors; rental area: ca. 20,500 m<sup>2</sup> incl. general and storage areas





## Petrom City

As the turnkey contractor, ALPINE constructed the new corporate headquarters of Petrom S.A.

This is both the national Romanian oil company and the largest oil and gas producer in Southeastern Europe. Six buildings have been constructed in several construction sections.

One of the challenges was in the execution of very high safety standards. The building complex includes a computer centre and a parking garage. Multi-functional room systems and spacious conference and staff amenities areas correspond with modern Western standards.

The **thermal and electrically self-sufficient** power supply is produced on the company's own round by three block heating works.

### SPECIAL FEATURES

#### ► Innovative facade technology provides high energy efficiency

Glass facades with sandwiched Venetian blinds are currently the most innovative product in facade shading technology. The advantages of this construction method are its narrow width and it is maintenance-free.

#### ► Heating and cooling using ceilings and floors

To provide comfort for its users and to maximize energy efficiency, the building's room temperature and air-flow conditions are simulated and the building services adjusted accordingly.

### OFFICE BUILDING



### BUKAREST / ROMANIA

Total area: 106,000 m<sup>2</sup>

Construction site: 42,350 m<sup>2</sup>

Computer centre: Basement + ground floor + 3 upper floors: 6,600 m<sup>2</sup>

Power station: Ground floor: 1,700 m<sup>2</sup>

Head Quarter: Basement + ground floor + 10 upper floors: 11,000 m<sup>2</sup>

Construction period: 2008 - 2010

Order value: € 117.6 million





## Oberlaa thermal spa

One of the largest and most modern thermal spa centres in Europe is currently undergoing construction at the Oberlaa thermal spa complex. Visitors can expect stylish relaxation areas with saunas and an integrated health centre with 200 treatment and therapy places.

### Construction occurs in 3 phases:

- > Integrated health centre
- > Thermal spa and sauna landscape
- > Underground car park

### SPECIAL FEATURES

- ▶ Highest precision is demanded from the largest sport pool to the smallest plunge pool. Only a small dip in a pool (overflow pool) would result in no water movement in certain areas of the pool and that would lead to the growth of germs in the water.
- ▶ The water area was doubled with 16 large and 8 additional small pools (e.g. Kneipp-treatment pools).

### TREATMENT & WELLNESS



### VIENNA OBERLAA / AUSTRIA

Total area: 75,000 m<sup>2</sup>  
 Sauna area: 3,000 m<sup>2</sup>  
 Water area: 4,000 m<sup>2</sup> with 24 pools  
 Concrete: 45,000 m<sup>3</sup>  
 Excavation: 135,000 m<sup>3</sup>  
 Reinforcement: 4,700 t  
 Construction period: 2008 - 2011  
 Order value: ca. € 21.3 million

Thousands of running metres of **ductile piles** have been pushed up to **18 m deep** into the ground to stabilize the clay underground supporting the pools.



## 'Holzhafen West' & 'Kristall'

The office building "Holzhafen West" and the residential tower "Kristall" are located in the oldest and still preserved inner harbour of Hamburg. The office building features a clinker-punched facade and the glass tower 'Kristall' is the highlight of the 'Holzhafen' Hamburg. Both, the prestigious inside courtyards and the 35 condominiums provide a spectacular view across the river Elbe.

### SPECIAL FEATURES

- ▶ Geothermal systems in the pile foundation provide heating and/or cooling for the building as required.
- ▶ The thermoactive building is energized through ventilation.

### OFFICE BUILDING & RESIDENTIAL TOWER



### HAMBURG / DEUTSCHLAND

**Office building West**  
 Number of floors: 7  
 Building volume: ca. 62,000 m<sup>3</sup>  
 Underground car park: 380 carports

**Residential building Kristall**  
 Number of floors: 20  
 Building volume: ca. 35,000 m<sup>3</sup>

Customer: B&L Holzhafen West GmbH & Co. KG, Hamburg

Construction period: 2008 - 2011

Order value: ca. € 45.1 million  
 ARGE part 70%

Extensive **flood protections measurements** have been required along the banks of the river Elbe.



## Empire Riverside

ALPINE was the general contractor for the turn-key construction of the four-star hotel "Empire Riverside" in the Hamburg district of St. Pauli. The building complex consists of the hotel tower, the L-shaped base and the "Brewhouse" as a separate office and shop building. A design required a reinforced steel composite construction. The bathrooms are made of a combination of steel and light-weight construction and have been pre-manufactured including tiles and equipment. A crane has lifted these into place during the shell construction phase.

### SPECIAL FEATURES

- ▶ A **climbing formwork** has been used to perform the advanced land clearing works. The individual elements have been moved weekly by a 100-m-tall crane.
- ▶ A **wind shield** has been attached to the building's outside edge and ensured that works could be continued even during strong crosswinds and low temperatures.

### HOTEL & OFFICE BUILDING



#### HAMBURG / GERMANY

##### HOTEL

Number of floors: 21  
 Site area: ca. 3,525 m<sup>2</sup>  
 Building height: ca. 73 m  
 Usable floor area: 23,000 m<sup>2</sup>  
 Rooms: 328  
 Construction period: 2005 - 2007  
 Order value: ca. € 32 million

##### BREWHOUSE

Number of floors: 8  
 Usable floor area Brauhaus: 5,500 m<sup>2</sup>  
 Construction period: 2005 - 2007  
 Order value: ca. € 8 million

*Hotel and Brewhouse ARGE part facade:  
 F. Haskamp & Beaujean ca. 18 %*



## Lentos Museum of Art

The Lentos Museum of Art in Linz at the Danube river is one of the most important museums of modern and contemporary art in Austria. The visual appearance is dominated by glass and exposed concrete.

The long sides of the facade perform the function of a bridge girder and span across the 60-m-long sculpture hall and 40-m-long windows element without additional supports and thereby form the support structure of the entire first floor.

### SPECIAL FEATURES

- ▶ The building's foundation consists of **40 cm to 110 cm strong floor plates**. The vibro-displacement method with 15,800 running metres was performed to improve the foundation soil (loose 'Danube gravel').
- ▶ The staircase is made of exposed concrete and the formwork was extensive. To avoid construction joints **stairway and balustrade were poured in one piece**.

### MUSEUM



#### LINZ / AUSTRIA

Length: 130 m  
 Usable floor area: 8,800 m<sup>2</sup>  
 Concrete: 16,000 m<sup>3</sup>  
 Formwork: 36,000 m<sup>2</sup>  
 Steel construction: 106 t  
 Construction period: 2000 - 2002  
 Order value: ca. € 7.7 Mio.  
 ARGE part 50%

**165 small bore piles serve as negative-buoyancy measurement in case of a flood.**



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