

Der Rosenhügel: a residential complex in Vienna

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Building construction



Factbox

Client: Rosenhügel Entwicklungs-
Errichtungs- und
Verwertungsgesellschaft mbH u. Co KG

Contractor: PORR Bau GmbH

Contract Type: Generalunternehmer

Project Type: Building construction .
Residential building

Scope: Construction of 7 freestanding
buildings comprising 204 privately
financed apartments

Contract Volume: 29 million euros

Construction Start: 06/2016

Construction End: 05/2018

Location: Vienna

Make your home in the city of films

PORR has developed an exclusive residential complex, located on the site of the former Rosenhügel film studios.

The sophisticated architecture, with large quantities of exposed concrete, presented PORR with a number of challenges. For structural reasons, prefabricated parts could not be used for the balconies, meaning creative solutions had to be found.



The new residential complex consists of seven independent buildings with numerous communal facilities such as a sauna, fitness centre and party room.
Source: PORR

Background

In 2016, PORR Bau GmbH was commissioned by Rosenhügel Entwicklungs-, Errichtungs- und Verwertungsgesellschaft mbH, a project partnership between UBM Development Österreich GmbH and IMMOVATE Management GmbH, to build an extraordinary residential complex in Vienna's 23rd district. As general contractor, PORR was to construct seven buildings connected by an underground car park with a total of 204 privately financed flats on the large site of the former Rosenhügel-Filmstadt in just under two years of runtime. The project was to be realised under the name Der Rosenhügel. The contract volume for PORR totalled around 29 million euros.

Challenges in the run-up

Some areas of the former film studios built between 1919 and 1923 have been listed buildings since 2011, including the so-called synchronisation hall and the first artificial light recording hall. In order to ensure the protection of this building fabric worthy of preservation, PORR constructed the exterior walls to the existing buildings using the so-called pilgrim step method. This is a particularly cautious construction method that involves working with forward and backward movements in order to avoid damage.

As the construction project is located in the centre of a residential area, coordinating the delivery of materials also posed a challenge. In addition, a group of trees in the centre of the construction site had to be preserved and included in all planning. For example, the trees were protected with sheet piling during the foundation work.

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Even without the use of precast concrete elements, we produced the 3 km of balcony edge beams in impressive exposed concrete quality.

Marco Hanschitz
Site manager, PORR Bau GmbH

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Complex façade with lots of exposed concrete with lots of exposed concrete

Following the construction of the underground car park, a particular challenge was the construction of the main buildings with varying numbers of storeys, different height levels and oscillating balcony shapes. The architects planned round, circumferential balconies made of in-situ concrete for five of the seven buildings. The undersides of the balconies, as well as the lateral end faces of the balconies, were to be constructed in exposed concrete quality. The obvious option of using precast concrete elements was not possible for structural foundation work. With a total of 3 km of balcony edge beams, the PORR site team had to look for an alternative. The solution was found in a girder slab formwork, which was used to create the concrete soffits. The approximately 500 static and 1,500 optical supports were already concreted in the shell.



The formwork for the 3 km long balcony edge beams posed a particular challenge.

Source: PORR

In addition, 300 supports were also installed as cladding for the rainwater drainage of the balconies. PORR used a system consisting of rainwater downpipes which were subsequently inserted into the optical supports. Only a cone as well as a base element were concreted into the shell. The lateral edge beam formwork was realised with the help of

individual, adjustable mounting brackets. The use of a thin formwork panel enabled precise execution. A geosystem, a Robotic Total Station, was used to maintain the exact positional accuracy. Manual positioning would have caused additional tension in the construction process.

56500 m³

Excavation volume

27000 m³

Concrete incorporated

Technical data

Gross floor area	37.500 m ²
Usable area	23.150 m ²
Site area	15.165 m ²
Construction pit depth	7 m
Car parking spaces	239
Reinforced concrete incorporated	2.494 t

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Extensive safety measures

The uneven and curved balconies of the individual storeys presented a further challenge. These could not be demoulded at an early stage. Dismantling to an emergency base before concreting the balcony slab ceiling of the last floor was difficult to realise both technically and for safety reasons. This greatly delayed the interior construction and the subsequent installation of the windows.

To ensure a smooth, safety-related transition of the façade work, the final railings were already installed in the shell. This meant that no work had to be stopped due to safety measures. The use of safety nets ensured complete safety for the workers.



The completed Der Rosenhügel project was handed over to the client in May 2018.
Source: PORR

Conclusion

With the Der Rosenhügel residential complex, PORR has realised an architecturally unique project. Despite the problems that arose, the high demands in terms of the extraordinary façade design were realised in an outstanding manner. Even without the use of precast concrete elements, the approximately 3 km of surrounding balcony edge beams were realised in impressive exposed concrete quality. Despite cost and time pressure, the project was handed over to the client in May 2018.