

“Glaubtenstraße” residential development

Zurich-Affoltern

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The project contract

On 26 November 2014, PORR Suisse AG received the sole contractor contract from HALTER AG for the Glaubtenstraße building project in Zurich-Affoltern. Included in the contract were the turn-key-ready construction of a total of 20 rental flats eight condominiums, the associated underground car park and the design of the entire outside facilities. A prerequisite for the construction of the three buildings was the demolition of three existing blocks of flats including the associated remediation of contaminated sites. Work started on 01 April 2015. Turnkey delivery of the entire complex to the clients occurred on 30 September 2016.



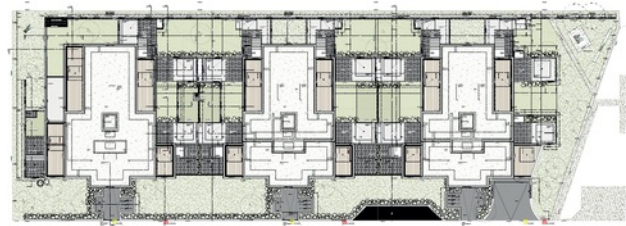
View from a north-westerly direction
Image: PORR AG

Design and design concept

Both the preliminary design and the complete implementation planning for the replacement construction were drawn up by BDE Architekten GmbH. Under consideration of the statutory stipulations, this resulted in a complex of three apartment buildings which harmoniously blend into the existing slope of the neighbouring family gardens. The basic idea of the architectural concept was the maximum use of the living space. The underground car park was therefore situated on the ground floor behind the buildings in the south-easterly slope.

The plots form the transition from the Käferberg landscape with the existing family gardens, meadows and forest. A continuous ground floor base grips the edge of the Käferberg incline and links the facades of the buildings into Glaubtenstrasse. The slight slope allows for a general focus on the countryside as well as directly accessible, private terraces and gardens for many of the flats.

The newly created residential development consists of three separate properties with eight condominiums in building A as well as 20 rental flats in buildings B and C. The rental flat offering includes 2.5 to 4.5 room flats with individual layouts.



Floor plan: Glaubtenstraße residential complex environment
Image: PORR AG

Construction pit and carcass

Once the remediation of contaminated sites, which accrued additional costs owing to materials which had not been investigated, was completed, the demolition work progressed relatively quickly. Since the ground floor also forms the basement in the slope and the underground car park in the south-east, the excavation support was designed as a nail wall. Thanks to the local conditions, dewatering was not required.

In a period of just four months, from September 2015 to the beginning of December 2015, the structural work was realised using the reinforced concrete method with high-strength precast columns, bracing walls in the stairwells/lift shafts and ceilings. All domestic cables were laid in the 25 cm thick steel-reinforced concrete ceiling, as is standard in Switzerland.



Construction pit
Image: PORR AG



Nail wall
Image: PORR AG



Cross section of building B
Image: PORR AG



Ground floor carcass floor
Image: PORR AG



Ceiling inlays above the ground
Image: PORR AG

Building envelope

The three building volumes, which are divided by windows and balustrades, rise from the monolithic concrete foundation.

On the two rental buildings, the split level results in interlacing of the lines of windows and balustrades made from fibre cement. Thus, the lines of windows on the south side become lines of balustrades in the north.

The project meets the requirements of the 2012 Minergie standard. The specifications of this label are fulfilled with regard to the facade with triple insulated wood and aluminium windows and 20 cm of mineral wool insulation. The flat roofs were sealed with bituminous sheeting and extensively planted.

The circumferential lines of balustrades and windows made from Stahlton elements and a special mineral plaster were a particular challenge on the facades. The latter was realised as so-called "Worms plaster". Through the spraying method, the grain remains visible as such on the surfaces. This results in a rough surface with an even texture.



View of the building B facade / garden side
Image: PORR AG

Interior finishes

The condominiums were furnished according to the buyers' wishes. Support for the future property owners was also undertaken by PORR Suisse for this project. The rental flats were designed according to the architect's colour and material concept.

The flats are organised around a central core with bathroom, kitchen and coat rack. This is all designed to be non-load-bearing in all flats and is erected like furniture in the space. The core has a monochrome, smooth surface and is offset from the ceiling with a shadow joint. The kitchen, coat rack and doors are coated with synthetic resin, the plasterboard walls are smoothed, sanded and painted.

There are fine colour accents in the incised niches in the kitchen and coat rack. The solid frame doors to the bathrooms are installed flush, with flush closing. All of the rooms surrounding the core received parquet flooring.

On the walls, the ribbon facade theme was also carried through into the interior. While the balustrades, the lower section of the pillars and the ceiling are kept in a neutral white, the windows come together with the curtain board and windowsill, as well as the upper section of the pillars, in a ribbon of warm grey and frame the view of the verdant surroundings.



Condominium bathroom
Image: PORR AG



Rental flat bathroom
Image: PORR AG



Attic flat
Image: PORR AG

Technical building equipment

The energy generation for all three buildings occurs using geothermal probes. The underfloor heating, which is supplied from the geothermal probes, is not only used for heating during the winter period but can also be regulated as comfort cooling in the summer. The controlled domestic ventilation fulfils the Minergie standard requirements. The ventilation in building A can be manually controlled by the owners. The condominiums are equipped with “digitalstrom”, which allows the users to individually control all electronic installations.

by means of geothermal probes, as well as the personal buyer support with the consistent implementation of individual special requests in interior finishes rounded off the requirements profile for the PORR SUISSE AG construction and project management team.

Project data

Gross floor space	12,300m ²
Flats	28 flats in 3 buildings / 20 rental flats, 8 condominiums
Outdoor facilities	4,600 m ²
Underground car park	24 car / 2 motorcycle parking spaces, 750 m ²
Special features	Turnkey implementation incl. buyer support
Start of construction work	April 2015
Construction time (calculated from carcass completion)	18 months
Carcass construction time	4 months
Completion	October 2016



Geothermal probes in the floor panel
Image: PORR AG

Summary

A particular challenge of this small but excellent project, alongside the limited space available and the difficult slope stabilisation, was the implementation of the finely ordered facade in a thermal insulation system with Stahlton elements. This connects the three building volumes in question, with their strong circumferential fibre cement ribbons, together into a unit.

The design of the terrace-like outside facilities cut into the slope, which allow direct access to their terraces and private gardens for many of the flats, was also very challenging. The planned Minergie standard with controlled domestic ventilation and heating and cooling supplied