

Ruckergasse primary school in Vienna Meidling

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Building construction



Factbox

Client: Stadt Wien MA56 – Wiener Schulen, vertreten durch die WIP Wiener Infrastruktur Projekt GmbH

Contractor: PORR Bau GmbH . Hochbau . NL Wien

Architect: GSD Gesellschaft für Stadt- und Dorferneuerung Ges.m.b.H.

Contract Type: Generalunternehmer

Project Type: Building construction/revitalisation

Scope: Renovation and extension to a primary school, while schooling continued and in cramped conditions

Contract Volume: EUR 4m

Construction Start: 12/2018

Construction End: 01/2020

Location: Vienna

In Vienna's 12th district, PORR has revitalised a school building from the 19th century and build a new extension in reinforced concrete in two project stages.

At school, the children need to concentrate, and the teachers want to transmit their knowledge in peace... if you're charged with the renovations while schooling is ongoing, you need to be as quiet as possible. To compound the challenge at the school in Ruckergasse, space was at a premium: a mere 220m² area was available for the crane, several skips, and storing the formwork panels and building material.

The City of Vienna, represented by Wiener Infrastruktur Projekt GmbH, or WIP, contracted PORR Bau GmbH in December 2018 to revitalise the primary school in Ruckergasse in Vienna's twelfth district. The project involved two four-storey school buildings with basements and a two-storey sports hall with no basement. The buildings date back to 1902 and are typical for Austria's period of rapid industrial expansion.

The team also constructed a new building in the inner courtyard of the U-shaped complex, creating an accessible link between the existing buildings and providing space for new classrooms, a dining room and a kitchen.

Lots of material, not much room

The steeply sloping plot and cramped space available for work and storage created additional challenges for the project. Due to official regulations, PORR was not allowed to block the pavement. This left a mere 220m² area available for the crane, a number of skips, and storing the formwork panels and building

material. The lorry turning areas also had to be created in this space. Finally, it was necessary to take into account the highly-frequented bus stop in front of the building, which was particularly busy at peak times.

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The loads on the new building are dispersed via 168 ductile driven piles.

Florian Schodl

Renovating the old building, linking the new building

During the first construction phase, PORR merged spaces together and built 42 varied underpinning structures from steel girders. The team also had to create openings in the external walls facing the courtyard area, ready to connect the new building. The corridors and stairwell were brought up to date with the latest fire safety standards, and the herringbone parquet floors in the classrooms were sanded and polished. Fresh paint was applied everywhere. Also as part of this first stage, the existing sports hall on the second^[1] floor was completely gutted, rebuilt, and a new wooden sports floor was installed. Extra safety was ensured with an additional escape route running through the new building.

The second school building, Ruckergasse 44, had been renovated just a few years before. The team's task this time around was just to update the fire safety measures and break through the openings ready for the new building. To avoid interrupting schooling, PORR carried out this work during the summer holidays. The team handed over this renovated section to the employer on time at the end of August 2019, ready for the start of school in September.



The sports hall on the first floor was completely gutted and rebuilt by PORR.
Source: PORR/Philip Trummert

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The cramped conditions and the construction pit open to the road presented a challenge for our team. We could not position the crane until the basement ceiling was complete.

Florian Schodl

Historical facade, colourful cladding

In the second construction phase, PORR constructed the new building in the inner courtyard, linking together the two existing school buildings and the sports hall. The new building has a central cloakroom, a dining room, the main entrance area, four classrooms, a lift and several sets of toilets. Lessons can also be taken out onto the roof terrace, where the team built a pergola. The three storeys are linked by an atrium, which was built onto the former external wall of the sports hall, such that the hall's historical outer facade was retained – all three storeys can be seen from the atrium. On the second floor, PORR built a post and rail structure with an integrated flue. The outside of the new building has a facade system with rear ventilation and colourful composite aluminium panels reminiscent of the famous Rubik's cube.

Since the sports hall does not have a basement, PORR had to underpin the foundations here – and parts of the other school buildings – using the jet grouting method. The loads on the new building are dispersed via 168 ductile driven piles. Due to the cramped conditions and the construction pit open to the road, the crane could not be positioned until the basement ceiling had been completed. The team built the carcass partly from precast elements and partly with in-situ concrete walls. Dewatering had to be carried out during the work on the ductile piles and while working in the basement level, due to the steep slope of the plot.

PORR handed over the project to the employer on schedule in January 2020. Thanks to superb cooperation between everyone involved, the students were able to start using the new building almost straight away in February.



The historical exterior facade of the sports hall can be seen from the atrium of the new building. Source: PORR/Philip Trummert

Technical data

Total floor area	3,825 m²
Concrete installed	980 m²
Steel installed	113 t
Jet grouting	90 m²
Ductile piles	128
Hollow core slabs	168 m²
Suspended aluminium facade	240 m²
Wooden sports hall floor	155 m²

Gallery

