



PROGRESS: 100% - COMPLETED
AUSTRIA

LEARNING IN ENVIRONMENTALLY-FRIENDLY SURROUNDINGS

Volksschule Christian Bucher Gasse 14, Vienna

Text: David Glöb

PORR revitalised the 1950s-built school in a series of construction phases, adding a modern timber extension.

Revitalising the school complex included building additional classrooms, a sports hall and an events hall. The work was carried out in four construction phases each lasting six months, while the school remained open.

Overview

In 2016, the City of Vienna tendered a project to revitalise the school in Christian Bucher Gasse in Vienna's 21st district, Floridsdorf. The contract was awarded to PORR in September 2016 and included renovating the main school block during ongoing school operations, plus building additional classrooms, a sports hall and an events hall. Extensive outdoor areas including a sports field were also to be developed.

The City of Vienna placed great importance on using environmentally-friendly materials and sustainable construction techniques. To meet this requirement, cross-laminated timber (CLT) was used for the structural work and the façades.

Project data

Employer	Stadt Wien MA 56 - Wiener Schulen
Contractor	PORR Bau GmbH
Architect	Dietrich Untertrifaller Architekten ZT GmbH
Order type	Generalunternehmer
Project type	Building construction . Revitalisation
Project scope	Conversion and extension of a school using solid timber construction, carried out during school operations under cramped conditions
Order volume	12 million euros
Construction start	09/2016
Construction end	06/2019

The environmentally-friendly structure is complemented by extensive green areas on the flat roofs, which reduce heat radiation. Solar panels have also been installed, which supply the building with sustainable energy.

By optimising the specialist foundation work and using prefabricated components, PORR was able to continue work throughout the winter months, thereby keeping the construction period to a minimum. The work was completed over four construction phases of six months each.



In total, 4,300m² of solid CLT ceilings and 3,100m² of solid CLT walls were installed. Source: Gerfried Tamerler/PORR

Demolition and construction

The first construction phase involved building one section of the new classroom block. This was handed over on schedule for occupation, and once the pupils had moved out of the temporary classrooms erected in the 1980s, the second construction phase could begin. In this second stage, the northwest section of the existing school building was demolished and a new classroom block was built. On completion of this phase, the school was able to make use of 15 new classrooms, a media room, a library and various rooms for large and small groups.



THE TWO-STOREY SPORTS HALL, WHICH PROTRUDES 6M OVER THE FORECOURT TO CREATE A COVERED ENTRANCE, PRESENTED A PARTICULAR CHALLENGE.

David Glöbl
Site manager, PORR Bau GmbH

Overhanging challenge

The third construction phase saw the erection of the administrative wing and sports hall on the first floor. The two-storey sports hall, which protrudes 6m over the

forecourt to create a covered entrance, presented a particular challenge. The overhanging section of the hall was built with 26cm thick CLT walls. The enormous tensile forces generated by the overhang could only be absorbed by creating dovetails in the solid timber walls.



Dovetailing in the solid timber walls absorbs the enormous tensile forces. Source: Gerfried Tamerler/PORR

Once the new sports hall had been completed, work began on conversion of the old sports hall, transforming it into a dining room and events hall – which is used not just by the

school, but by the whole district.

By the end of phase 3, PORR had installed a total of 4,300m² of solid CLT ceilings and 3,100m² of solid CLT walls.



The former sports hall has become a dining room and events hall that is used by the whole district. Source: Gerfried Tamerler/PORR

Accessible design

During the final construction phase, PORR built new media rooms, workshops and recreation rooms, and the caretaker's accommodation.

The opportunity was taken during the renovation work to make the school complex fully accessible and create a sheltered courtyard. The outdoor areas were also developed, with facilities including a sports field, a motor skills area and a garden laboratory, as well as extensive green spaces.

Summary

PORR handed the project over to the City of Vienna on schedule in June 2019. In retrospect, dividing the work into four construction phases worked exceptionally well. The experience gained during the first phase played an important part in PORR's ability to master the complex tasks and overcome the specific technical challenges that arose during later phases.

Technical data



4,400m³

Excavation volume

1,900m²

Timber-framed walls

Gross floor area	8,400m ²
Car parking spaces	9
Drill piles	262
Steel incorporated	30t
Concrete incorporated	1,600m ³
Reinforced concrete incorporated	141t
CLT solid timber ceilings 10-26cm	4,300m ²
CLT solid timber walls 10-26cm	3,100m ²
Suspended timber façade	2,070m ²