StoraEnso

CampusRO
Rosenheim, Germany

Welcome to CampusRO! Situated near Rosenheim Technische Universität, this innovative project features student apartment units and a multi-storey boarding house offering hotel-like services. As Germany's first hybrid mass timber student housing complex, it proudly holds DGNB Platinum certification, setting a new standard in sustainable construction.

Publications

https://bigsee.eu/pavilion/

https://www.octogon.hu/epiteszet/nem-olyan-hanem-az/

DGNB Platinum certification is the highest level of recognition awarded by the German Sustainable Building Council (DGNB) for sustainable buildings. The fulfilment rate of Campus RO was 85.8% and the Boarding House a compliance of 84.8% one of the highest degrees of compliance for student housing in Germany to date thanks in large part to the materials specified - Sylva™ by Stora Enso.

The architectural vision for CampusRO was brought to life by ACMS Architekten. Known for their innovative and sustainable designs, ACMS Architekten have a reputation for creating spaces that are both functional and inviting.

Their approach to CampusRO was no different, focusing on creating a lively, study-oriented community with modern amenities and smart low carbon design features. The project includes open and covered arcades, green inner courtyards, and roof terraces with stunning views of the city and the Alps, providing students with inviting spaces to relax and socialize.

This mass timber hybrid project was developed by CampusRO (a joint venture between ECKPFEILER Immobilien Group and PMA Invest).

Design

Both buildings are designed using used BIM (Building Information Modelling) to be as energy efficient as possible in both in operation and materials specified as well as the construction.

Supercharged: operational energy efficiency

The student housing is designed for the KfW 40 Plus standard and the boarding house for KfW40. The KfW 40 Plus standard is a high energy efficiency benchmark for buildings in Germany, set by the KfW Development Bank.

Key features of a KfW 40 Plus building include:

-Enhanced insulation: Superior insulation to minimize energy loss.

-Renewable energy generation: On-site power generation, typically through solar panels.

-Energy storage: A battery storage system to store excess energy produced.

-Ventilation system with heat recovery: Efficient ventilation that recovers heat from exhaust air to preheat incoming fresh air.

-These features ensure that the building is not only energy-efficient but also capable of producing and storing its own energy, making it highly sustainable and cost-effective in the long run.

Embodied emissions: reducing the building's carbon footprint with the right materials

When we think about a building, we need to consider its whole life, not just when it's being built.

Using engineered wood is an immediate solution because it can store carbon dioxide (CO_2) as we see at CampusRo. The mass timber specified drastically reduced the carbon footprint of the overall building.

The prefabricated Sylva™ kit of parts by Stora Enso only generated 25 tonnes of greenhouse gases (CO_2e) to manufacture and 4 tonnes of CO_2e to transport. This is a small fraction compared to the 365 tonnes of carbon dioxide that the trees removed while growing and will store in the building. By choosing Sylva CLT elements instead of non-renewables, the project avoided 549 tonnes of greenhouse gases. (Source: Stora Enso Carbon Calculator. Try it out and see what how small the carbon footprint of your project would be too).

There were additional energy savings with materials by reusing some of the materials left over from the demolition of the existing building.

Optimised construction: Saving energy every step of the value chain

Huber & Sohn constructed the majority of the building using prefabricated cross-laminated timber walls (Sylva™ by Stora Enso). Most of the load-bearing outer walls are prefabricated Sylva™ CLT Walls. The non-load-bearing walls were adapted with built-in windows, ventilation, and outer wall formwork.

A hybrid of glued laminated timber (GLT/glulam) and cast-in-place concrete was used for additional stability. The load-bearing Sylva™ CLT Walls were set in a 6.4 m grid, serve as apartment partitions. The wood used to make the CLT was PEFC-certified wood sourced mainly from local from Bavarian and Austrian forests. (Source).

The bathrooms were made as complete room modules by Geberit Huter. The main technology and the ventilation system were already built into the walls before they were put together.

Sylva™ Services

This project leveraged many of Stora Enso's Sylva Services including Sylva Fire-Resistant Lining, End Grain Sealer, Temporary Membranes and Lifting Devices in their factory controlled conditions so when the elements arrived on-site, they were ready to install immediately.

Collaboration

The partnership between Stora Enso and Huber & Sohn was instrumental in the success of CampusRO. Huber & Sohn, the main contractor, and mass timber specialist, brought their extensive experience in timber construction to the project. Their collaboration ensured that the prefabricated elements were integrated into the construction process, maintaining the project's timeline and quality standards.

Awards

The project was awarded DGNB Platinum Certification with a fulfilment rate of 85.8%. This is by far the highest degree of compliance for certified student housing in Germany to date.

1st prize Balthasar Neumann Prize 2023 The adjacent boarding house was also submitted with the goal of platinum and is now certified with a fulfilment rate of 84.8%.

Building class: 3 & 4 (Student Housing); 5 (Boarding House)

Learn more about:

-this project in HolzBau

-the advantages of building with mass timber DE version available soon. Be the first to be notified: Subscribe to news and updates

StoraEnso

DGNB Platinum Certification

1st prize Balthasar Neumann Prize 2023

Photo credit: Sigurd Steinprinz / ACMS Architekten

General

Delivery year

2021

Building type

Multi Residential

Area (m²)

9,924

Storeys

5

Units

251

Products

Products and Services

Sylva™ CLT Floors and Roofs, Sylva™ CLT Walls, End Grain Sealer, Temporary Membrane, Fire-Resistant Lining

Product quality

NVI

Product volume (m³)

480

Product delivery duration (weeks)

17

Number of deliveries

16

StoraEnso

Team

Developer

CampusRO Projektentwicklungs GmbH & Co. KG

Architect

ACMS Architekten

Structural Engineer

Guggenbichler + Wagenstaller GbR

MEP Designer

Ingenieurbüro Lackenbauer GmbH

Main contractor

Huber & Sohn

Specialist Timber Subcontractor

Huber & Sohn

Timber Engineer

Pirmin Jung Deutschland GmbH

Others

Construction duration (months)

15