Austria’s first seven-storey residential building made of timber has been finished

The apartment complex in Wagramer Straße 151-155, 1220 Vienna, has recently been handed over to the tenants.

After having translated a considerable number of small-volume timber buildings into reality and having intensively dealt with the topic of “urban timber construction” within the framework of the research project Eightplus, Schluder Architektur are now responsible for designing and building the first seven-storey residential building made of timber to be realised in Austria. With the implementation of the apartment complex in Wagramer Straße in Vienna’s 22nd district, Donaustadt, Schluder Architektur, together with its project partners, have provided evidence that timber is not only, due to its ecologically sustainable qualities and its much appraised positive effects on the living comfort and the room climate, an excellent CO₂-neutral construction material. It can also claim to be a first-class choice in large-volume urban construction thanks to its qualities in construction economy in general as well as its constructive characteristics.

Top floors made of solid timber construction

The six top floors of Building Part A were built in solid timber construction made of Cross Laminated Timber (CLT). The prefabrication of the wall and ceiling elements including all wall openings not only accelerated the completion of the shell construction, but also guaranteed a construction site that was much cleaner than those involving the traditional construction materials and therefore also provided much healthier working conditions. The timber construction shell is mineral-clad, that is to say plasterwork on the exterior façade and gypsum plasterboard on the interior walls, thus excluding the possibility the timber components catching fire. The ground floor is made of armoured concrete – as prescribed by the Vienna Building Regulations (Wiener Bauordnung) for buildings higher than four storeys – as are the three staircase cores, for the purpose of the building’s general reinforcement and also for bracing the building load. The complex consists of a seven-storey building in Wagramer Straße (Building Part A, Schluder Architektur), to which three lower, three-storey buildings (Building Part B, Hagmüller Architekten) are linked, thus forming the transition to the more loosely arranged development structure of the surrounding areas. Each apartment unit disposes of a private open space area, either in the form of a loggia, a balcony or a terrace. The ground floor houses the community facilities and also a guest apartment.

Ecological commitment throughout the entire life cycle

In total, 2,400 m³ of Cross Laminated Timber were employed in the project. Approximately 2,400 tons of CO₂ are stored therein. When the building is dismantled at the end of its life cycle, the roughly 19 Terajoules (approx. 5.2 TWh) of stored energy can be made use of by transforming it into electricity and heat. Therefore, the use of timber as construction material will help save considerable quantities of fossil-based energy by replacing it with renewable energy resources available in Austria. The innovative apartment complex won the builder’s architectural competition “Urban Timber Construction” (“Holzbau in der Stadt”) and, in its capacity as a model project, represents an essential contribution to the development of sustainable construction methods in urban residential buildings.
Project data:

Location:
1220 Vienna, Wagramer Straße 151-155

Construction Part A – Seven-storey building in timber construction: Schluder Architektur ZT GmbH,
Construction Part B – Three storeys made of timber construction: Hagmüller Architekten

Apartments: altogether 101 apartments with special public funding
Apartment sizes: 36 m² – 108 m²

Builder’s architectural competition: November 2009
Planning phase: November 2009 – January 2012

Beginning of timber construction, construction part A: Beginning of January 2012
Completion and handing over to the tenants: February 2013

Project partners:

Building owner:
Familie – Gemeinnützige Wohn- und Siedlungsgenossenschaft

Architects:
Schluder Architektur ZT GmbH
Project leader: Natascha Stoklaska

Hagmüller Architekten
Project leader: Harald Eder

Structural engineering calculation:
RWT Plus ZT GmbH
Project leader: Anton Oster

Building services:
Team GMI Ingenieurbüro GmbH

Fire prevention:
BrandRat ZT GmbH (Wien)

Green areas and open space planning:
Carla Lo Landschaftsarchitektur

General contractor:
Voitl & Co. Baugesellschaft m.b.H.

Timber construction:
Aichinger Hoch-, Tief- und Holzbau GmbH & Co. Nfg KG

Cross Laminated Timber:
Binder Holz Bausysteme GmbH

Drywall construction:
Saint-Gobain RIGIPS Austria