

"sue+til" Residential Development, Winterthur

2019



The six-story residential complex, featuring over 300 apartments, is a flagship project for timber construction in Switzerland. Timbatec developed innovative structural solutions for the project.

The Project

Delays in the construction schedule are often to be expected with such large-scale projects. Not so with sue+til in Winterthur. The first tenants were able to move into their apartments six months earlier than planned. Thanks to innovative solutions and the dry construction method made possible by wood, the first tenants were able to move into their apartments 14 months after the start of the framing work. Functional modules with repetitive construction types were developed for this investor project. At the same time, the floor plans are very diverse and equally attractive to singles, couples, families, and retirees. The development is not only interesting from an architectural and timber construction perspective. It also meets the highest energy efficiency standards and complies with the guidelines of the 2000-Watt Society.

The Challenge

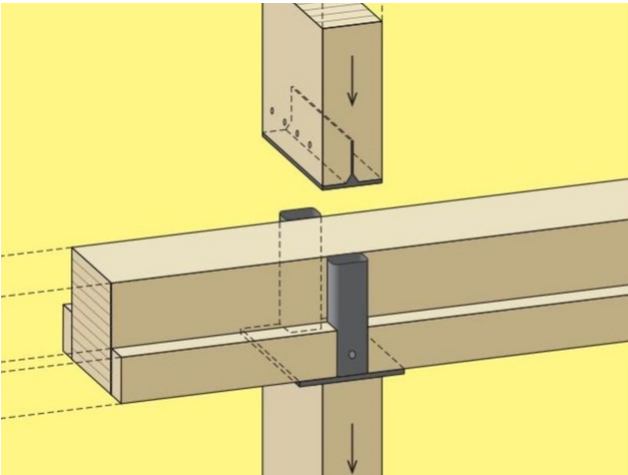
Wood has about ten times the load-bearing capacity along the grain than across it. Heavy loads on cross-grained wood can compress the wood fibers and lead to settlement. This must not happen in large timber structures like sue+til. Timbatec has developed a detail that transfers the forces from one column to the one below it without loading the beam in between. The solution was to double the girder laterally with vertical steel profiles on both sides of the girder, resting on slotted end plates. Thanks to these profiles, it was even easier to position and install the columns during construction.



Interior view



Loggia with supports and ceilings in timber construction



The node: steel parts transfer the load from one support to the next.
Source: Hochparterre



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Construction Data

- Building volume: 178,888 m³
- Floor area: 53,280 m²
- Solid wood and glued laminated timber: 6,800 m³
- Veneer and multilayer panels 1,130 m³

Construction costs

- BKP 1-9: 162 million Swiss francs
- BKP 214 (Wooden Prefabricated Construction): 15 million Swiss francs

Services of Timbatec

- SIA Phase 31 Preliminary Design
- SIA Phase 32 Construction Project
- SIA Phase 41 Tendering and Bid Comparison
- SIA Phase 51 Construction design
- SIA Phase 52 Construction
- Structural Analysis and Design
- Fire protection design
- 3D and 2D shop drawings
- Product development

Client

, Allianz Suisse
8010 Zurich

Architect

weberbrunner architekten ag
8045 Zurich

Architect

Soppelsa Architekten GmbH
8047 Zurich

Timber Construction Engineer

Timbatec Holzbauingenieure (Schweiz) AG Zurich
8005 Zurich

General Contractor/General Subcontractor

Implenia Switzerland AG
8305 Dietlikon