

Apartment house Mooseggstrasse, Langnau

2022



In the Generationenhaus Mooseggstrasse, a lot of beetle wood and almost no glued cross-sections are used. The skeleton construction is part of the architectural expression.

The project

The client attaches great importance to regionality and the ecological choice of materials. It is therefore obvious that climate-damaging materials such as concrete and steel were minimized to a minimum in the Generation House. A total of 585 m³ of wood has been used in the building. This corresponds to a solid wood cube with an edge length of 8.4 meters. By comparison, the three-story house has a building height of 8.6 meters. This much wood grows in Switzerland in about 90 minutes. Thanks to photosynthesis, this wood stores 379 tons of CO₂ which is now stored long-term in the Generation House. At the center of the three-story building is an inner courtyard as a meeting and access zone. To make this core zone possible, the arcades serve as an escape route in case of fire.

The construction

The columns run with Hinrholzkontakt through the entire height of the building and allow a low-settlement construction. Pincer pairs run on the structural axes at slab level, functioning as beams. Timber-frame building stringers fan out the skeletal structure, shape the apartment floor plans, and serve as building bracing. An electrical biology network in building envelope and between dwelling units minimizes electrical radiations in the apartments.

The challenge

The mergers between skeleton construction and timber frame construction together with the course of the electro-biological shielding net have to meet many requirements from statics, fire protection and sound insulation. Often the individual requirements contradicted each other, so that constructive compromises had to be found with tact.



The supporting structure is made of wood except for the tie rods.



In the apartments remains visible a lot of wood.



On the pergolas serve to protect the wood and are outdoor space at the same time.

Construction Data

- 3-layer boards 20.1 m³
- Solid wood panels 90.5 m³
- OSB boards 26.9 m³
- Duo beams 4.2 m³
- Squared timber 51.4 m³

Construction costs

- 7.0 million francs

Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 51 Implementation project
- SIA Phase 52 Execution
- Works planning 3D and 2D
- Fire protection planning

Architect

Werk.Architekten
3550 Langnau i.E.

Timber constructionengineer

Timbatec Holzbauingenieure (Schweiz) AG Bern
3012 Bern

Timberconstruction

GLB Langnau
3550 Langnau

Photography

Thomas Telley