

# Multi family house Bachstrasse, Buchs

2021

---



On Bachstrasse in Buchs in the canton of Aargau, a multi-family house was built in timber construction, which was originally planned as a reinforced concrete structure. The TS3 technology made it possible to change the material in the planning phase.

## The project

The three-story apartment house was once planned entirely in solid construction. Today, the client enjoys a building that combines the advantages of timber construction and solid construction: The house offers a pleasant living atmosphere, has a low ecological footprint, high flexibility of use and could be realized quickly and within the planned budget. The floor structure is very slim at less than 40 centimeters. Sound measurements show that in the area of impact sound the minimum requirements are clearly exceeded, and in the case of airborne sound even the increased requirements are met.

## The construction method

The floor slabs made of cross-laminated timber are connected with TS3 joints to form large areas. They rest on very filigree reinforced concrete columns and on the load-bearing exterior walls. With this construction method, a total of 190 m<sup>2</sup> of TS3 floor area was realized. For apartment buildings with low height (under 11 meters), staircases may be RF2 (combustible materials) instead of RF1 (non-combustible materials). This is made possible by the beautiful oak staircase.

## The challenge

The connection details of the very filigree reinforced concrete columns to the ceilings made of cross laminated timber and the staircase in timber construction are the exciting challenges of this project.



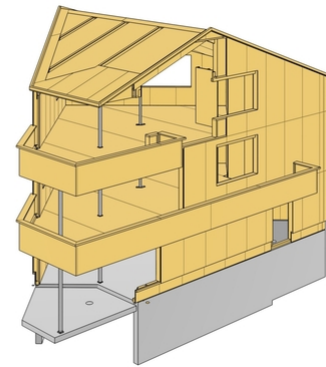
Exterior view



Oak staircase



View of column-slab connection and acoustic measurements



3D model

### Construction Data

- CLT 35 m<sup>3</sup>
- C24 15 m<sup>3</sup>

### Construction costs

- BKP 1-9: CHF 1.60 million
- BKP 2: CHF 1.50 million
- BKP 214: CHF 430'000

### 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
- SIA Phase 53 Commissioning
- Structural engineering and construction
- Specialist planning: building physics
- Specialist planning for fire protection
- Fire protection quality assurance QSS1
- Cost estimation
- Specialist construction management and site inspections
- TS3

### Building owner

Ines + Christoph Streuli-Schmid, Suhr

### Architect & construction management

Andreas Marti & Partner Architekten AG  
5000 Aarau

### Client

Schmid Textilrewashing AG  
5034 Suhr

### Timber construction engineer & building physics

Timbatec Holzbauingenieure (Schweiz) AG Zürich  
8005 Zürich

### Timber construction

Hecht Holzbau AG  
6210 Sursee

### Civil engineer

heatly partner engineering, Aarau

### Photography

Atelier Fotografie, René Rötheli, 5400 Baden