

# Pasa, Stein am Rhein

2020



Five new apartments were created in each of the two newly built apartment buildings in Stein am Rhein. Both houses consist of two full floors and a recessed attic floor.

## The project

The upper floors are built entirely in wood. The exterior and interior walls consist of a timber frame construction, which transfers the loads from the floor slabs made of horizontal glulam. In the area of the balconies, slender steel columns were chosen for load transfer. The stairwell was made of encapsulated cross-laminated timber panels that meet the fire protection requirements for an emergency stairwell.

## The construction

Precast concrete components were used only for the stair flights. The elevator shaft was also made of cross-laminated timber panels. This was initially erected in one piece over the entire height. The bracing was provided by the floor and wall slabs, which were formed with defined inner and outer walls. Underneath the two structures are the basement rooms and the underground garage.

## The challenge

The exterior dimensions of the two multi-family buildings were adapted to the non-regular site layout. This results in irregular building footprints with sloping walls and recessed floors. The main challenge was the recessed attic floor, where the loads had to be transferred above the spacious living and dining area below. The loads could be transferred with the help of individual steel girders integrated in the floor slab.



The wooden structure is erected



Ceiling integrated steel joist



CLT lift shaft



View of the two houses

### Construction Data

- Glulam GL24 30 m<sup>3</sup>
- Glulam floor slabs 280 m<sup>3</sup>
- structural timber C24 55 m<sup>3</sup>
- Cross laminated timber panels 80 m<sup>3</sup>
- OSB boards 510 m<sup>2</sup>
- Gypsum fiberboards 2850 m<sup>2</sup>

### Construction costs

- BKP 2: CHF 5'900'000.-
- BKP 214: CHF 950'000.-

### Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- SIA Phase 51 Implementation project
- SIA Phase 52 Execution
- Statics and construction
- Technical planning Building physics
- Fire protection Quality assurance QSS1

### Client

GetSpace AG  
8274 Tägerwilen

### Architect

Klein und Müller Architekten AG  
8280 Kreuzlingen

### Timber construction engineer

Timbatec Holzbauingenieure (Schweiz) AG Bern  
3012 Bern

### Timber construction

Krattiger Holzbau & Planung GmbH  
9517 Mettlen

### Civil engineer

Ingenieurbüro Furrer & Partner AG  
9500 Wil

### Building physics

Timbatec Holzbauingenieure (Schweiz) AG Bern  
3012 Bern