

# Wiesental School, East Building, Baar

2025

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The Wiesental School in Baar was adapted to today's requirements by means of a replacement building. The project, implemented using modern timber construction methods and featuring a mega timber framework, combines functionality and aesthetics.

## The project

The 2018 competition laid the foundation for the expansion of the Wiesental school complex during ongoing operations. Together with PENZISBETTINI Architects, Timbatec impressed with a timber construction concept that later had to be adapted due to changed requirements. Instead of the planned double gym, a triple gym with a significantly larger span of  $35 \times 50$  m was built. The original supporting structure with glulam beams and load-bearing corridor walls was no longer suitable for this. Timbatec therefore developed a new structural concept that efficiently and safely solves the large spans and complex load transfers in the wood. The new school building can accommodate over 500 children.

## The construction method

In the replacement building, a two-story wooden structure was erected above the triple gym: a primary truss – covering an area of  $35 \times 50$  m – in combination with a secondary truss. The pressure beams are made of wood, the tension members of steel. Bracing is provided by horizontal diaphragms (ceilings) and strategically placed steel walls. Assembly was carried out in sections with elevation to minimize deformation.

## The challenge

The 35-meter span of the triple gym with two floors above it required a combined, complex, and extensive primary and secondary truss system to efficiently distribute loads and minimize deformation. The combination of wood and steel meets high structural requirements.



Interior view with wooden construction and acoustically effective Lignotrend ceiling elements



The extensive wooden room program is being erected



High-tech combination of steel beams and wood. Precision work on the construction site.



The triple gymnasium below with its spanning wooden beams (length: 35 m)

### Construction Data

- Above-ground building volume: approx. 33'000 m<sup>3</sup>
- Glued laminated timber: 900 m<sup>3</sup>
- Lignotrend ceilings: 9'800 m<sup>2</sup>
- Net volume of wood used: 2'400 m<sup>3</sup>

### Construction costs

- East building
- BKP 214: CHF 10.4 million

### Services of Timbatec

- SIA Phase 31 Preliminary project
- SIA Phase 32 Construction project
- SIA Phase 51 Execution project
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 52 Execution
- SIA Phase 53 Commissioning
- Specialist fire protection planning
- Statics and construction
- Fire protection Quality assurance QSS2
- Cost estimation
- Specialist site management and site inspections

### Architect

PENZISBETTINI Architekten ETH/SIA GmbH  
8002 Zürich

### Timber construction

Kost Holzbau AG  
6403 Küssnacht am Rigi

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Bisang Holzbau AG  
6403 Küssnacht am Rigi

### Civil engineer

Ingenieurbureau Heierli AG  
8006 Zürich

### Client

Einwohnergemeinde Baar  
6340 Baar

### Construction umangement

Jaeger Coneco Baumanagement AG  
8006 Zürich