

# Outdoor test stand at the Bern University of Applied Sciences, Biel

2018



Supports, panels, done: In the courtyard of the Bern University of Applied Sciences in Biel, there is a permanent test stand with the new TS3 technology and the world's first face-bonded balcony. This clearly demonstrates the new possibilities for timber construction.

The innovative Timber Structures 3.0 technology (TS3) glues timber components made of solid, glulam or cross-laminated timber together on the face side. This allows point-supported, multi-axis load-bearing slabs or folded structures of any shape and size. of any shape and size can be created. This opens up constructive and design worlds that were previously inaccessible to timber construction. As part of a CTI project in collaboration with the Bern University of Applied Sciences BFH and the Swiss Federal Institute of Technology ETH, the endurance test stand was built using TS3 technology. The endurance test stand is an important step in the process of approval testing for the European and American markets.

## The Construction

The 7.5 x 7.5 m large, point-supported, two-axis load-bearing floor slab consists of eight 2.5 m and 3.8 m and 1.8 m long, respectively, 24 cm thick cross laminated timber panels, which were joined together by adhesive grouting. The support in a grid of 6.0 x 6.0 m is provided point by point with four 5.0 or 6.5 m long screw foundations. Together with the two 24 cm thick pendulum supports, this demonstrates the TS3 system: Supports, slabs, done.

## The challenges

The biggest challenge was the precise bonding of the load-bearing floor slab, the the load-bearing floor slab, the cantilevered balcony, and the folding structure in the roof. in pouring rain. With twelve tons of stone blocks or a permanent surface load of 3.3 kN/m<sup>2</sup>, the construction is now being construction is now being put through its paces.



Persons involved

### Construction data

- Round timber supports 24 cm diameter 2 pieces
- Screw foundations 4 pieces
- Roof waterproofing
- Stone blocks 36 pieces or 12 tons

### Timber construction

Stuberholz  
3054 Schüpfen

### Construction management

Berner Fachhochschule AHB  
2500 Biel

CLT: Schilliger Holz AG, 6403 Küssnacht  
Crane work: Flück Holzbau AG, 8602 Wangen b. Dübendorf  
Adhesive: Henkel & Cie AG, 4133 Pratteln  
Screw foundations: Krinner GmbH, 3272 Walperswil  
Roof waterproofing: Contec AG, 3661 Uetendorf  
Hydrophobic coating: Böhme AG, 3097 Liebefeld  
Natural stone blocks: Guber Natursteine AG, 6056 Kägiswil