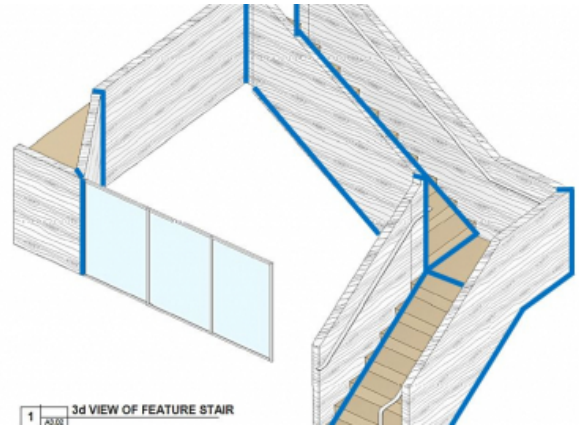


TS3-staircase at Naikoon Contracting



At the beginning of January 2019, the first staircase using TS3-technology was built. The showcase project was built in the new office building of Naikoon Contracting in Vancouver.

The Project

Timber Structures 3.0 technologies are used to bond timber components, among other things, on the front side. This makes it possible to produce components that support loads in several directions. This enables TS3 to be used not only in floor slabs, but also in folded structures such as staircases.

The staircase at Naikoon Contracting consists of twenty individual cross laminated timber components that were glued together at the construction site. The staircase with a middle platform has 16 steps. The first short section is 8'-17" long, the stair section is 7'-11" long.

The Construction

For the successful application of TS3 technology, the front ends of the components must not be pressed in or damaged. They have been impregnated with TS3 pre-treatment. The finished components were positioned on site using scaffolding and fasteners. All joints were then sealed and finally glued with TS3.

The Challenges

The accessibility for the filling of the joints was partly very difficult and could only be solved thanks to the flexible filling nozzles. Another major challenge was sealing the 45° degree joints so that no adhesive escapes from the joint.



Assembly of stairs by means of fasteners and scaffolding



Assembly of stairs by means of fasteners and scaffolding



Connection of wooden staircase to concrete



Pre-treatment of the front side

Construction Data

- Cross laminated timber with 5 layers 40 m²
- Cross laminated timber 1'750 kg
- TS3 pre-treatment

Services Timbatec/TS3

- Pre-treatment of components
- Bonding of the joints on site
- On-site training for TS3 Application Practitioners

Structural Engineers

Aspects Structural Engineers
Vancouver, BC, Canada

Building owner

Naikoon Contracting
Vancouver, BC, Canada