Building with wood

The advantages of timber construction considered from various perspectives.

We place our full confidence in timber as a building material and basic material, both in terms of the technical and architectural possibilities it offers and the ecological benefits it has as the most natural of all building materials. Wood: high-tech by nature.

Ecology

- Wood is Switzerland’s only renewable building material and one of its few natural resources.
- Wood is a regionally available, CO₂-neutral building material.
- It requires considerably less energy than other building materials when it comes to production, transport, assembly and demolition.
- Building with wood instead of brick or concrete reduces CO₂ emissions by more than half.
- Timber construction sets new standards in the field of sustainable, energy-conscious building.
- As a basic material and building material, wood minimises CO₂ emissions – a major advantage when compared to the production of other materials. Energy recovery at the end of the wood’s life cycle as a building material offsets even more fossil fuel energy, ensuring that the natural cycle comes full circle.
- Those who use wood for construction purposes are making an active contribution to protecting the environment. Unlike other materials, working with wood has a positive effect on CO₂ balance and the environment.
- One cubic meter of wood relieves the atmosphere of 1 ton of CO₂. For example, a three-level timber construction with an area of 20 x 25 meter absorbs 340 tons of CO₂. In turn, this compensates for the CO₂ emissions of 62 people in Switzerland or 148 years’ worth of CO₂ emissions based on average vehicle use in Switzerland (15,000 km mileage/year at 150 g/km). A 60 m³ single-family timber construction home, for example, is the equivalent of compensating for 27 years of car travel or a round-trip journey between Zurich and New York on a plane carrying 26 people (2.3 tons of CO₂ emissions/person).
- Swiss construction with timber currently accounts for around 15% of all construction. This could be doubled if we continue with strictly regulated, sustainable management of our forests.
Cost-effectiveness from the perspective of the investor/builder

- Image transfer as a responsible, progressive company thanks to innovative, progressive construction projects.
- Timber constructions save money at the construction site because they allow for exact planning and quick assembly as a result of prefabrication.
- Wood is durable. Wood, stone, and concrete are the same with regard to preservation of value and durability.
- Timber constructions can be integrated into the insulating layer, and wall structures are usually thinner for timber construction. This is beneficial in terms of usable space and the strength of the exterior walls, as it requires less space overall. This translates to approximately 1.4% more rentable space/rental income.
- Because the construction method is primarily dry, there is a reduced risk of physical damage to the structure as a result of building moisture.
- For investors, it is important that advanced financing and the marketing of the property take less time and are accompanied by assured on-time completion.
- The economic benefit for private builders lies in double financing, since the time between new construction and rental is short.

Building biology and tactility

- Wood is healthy for people and the environment, and is the foundation for allergy-free construction.
- The so-called 'U-value' reflects how much heat flows through a structural element from the warm side to the cold side. Well-insulated timber constructions achieve a U-value of 0.3 W/m²K at a thickness of just 20 cm. By comparison, a two-shell masonry structure takes 37 cm to achieve the same value.
- The dry construction method makes it possible to live comfortably and without building moisture from the start.
- Thanks to major advances in construction and soundproofing, timber constructions absorb noise coming from outside or inside the building.
- Wood is breathable, can absorb and release moisture, and therefore promotes a naturally regulated indoor climate.
- Wood is tactile, vibrant and warm.
Safety

- As a material, wood behaves more predictably than other materials in fires. Wood contains water and is a poor heat conductor, which is why it burns slowly. Under a charred outer layer, wood remains undamaged and retains its weight-bearing capacity.
- New fire regulations in Switzerland permit large timber constructions with up to six storeys – a clear acknowledgement of the safety of timber constructions in fires.

From the perspective of the architect/planner

- Image transfer as a responsible, progressive company thanks to innovative, progressive construction projects.
- Wood is a modern, ecological, natural and state-of-the-art material.
- Wood has a very high weight-bearing capacity relative to its weight and makes it possible to realise extraordinary architectural structures. For construction add-ons, timber construction is often the only viable solution. As a ratio to its weight, wood can bear 14 times more weight than steel.
- Digital planning and production have opened up all new dimensions for timber construction. Innovative connections, modern wood-based materials and cutting-edge CNC machines offer entirely new possibilities and ensure that wood can be shaped into almost any conceivable form.
- Wood meets today's highest technical standards. For decades, researchers all over the world have been testing the bending and breaking properties of the raw material.
- The planning and pre-fabrication of timber construction facilitate streamlined and economic construction. The precision of the planning phase ensures up-front cost certainty and allows projects to be executed swiftly and precisely. Multi-storey, high-volume timber projects can be quickly built at the construction site thanks to prefabrication.
- The relatively low weight of timber constructions requires smaller foundations.