

# Single family house Zysset, Thun

2004

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This simple, rectangular, Minergie-standard single-family house on a slope did not present a major challenge to the timber engineer from the outside. The difficulty, however, was that the top floor had hardly any walls.

## The project

A simple, rectangular single-family house in Minergie standard on a slope.

## The construction method

On the south side, a stable box girder of approx. 2 m width was formed over two floors. The structural design of the roof as a folding structure was achieved by means of two trusses in the roof plane. A tension band was used in the recessed facade of the east wall. The walls were designed as timber frame construction, the ceilings as simple beam layers. The façade is a ventilated, beveled and glazed horizontal formwork with 8 mm joints. For the floor-to-ceiling windows, the formwork was pulled through to chest height. However, every second formwork board was omitted, creating a «French balcony.»

## The challenge

On the north and west sides, the walls could be used for bracing; on the south side, on the other hand, only an approx. 1 m wide wall section was provided, and on the east side no wall at all. In addition, the roof on the east side covered an open terrace by about 3.2 m and could only be braced on the outside with 2 pendulum supports.



Inside



Inside



View



Inside

**Construction Data**

- Minergie: BE-304
- External formwork 145 m<sup>2</sup>
- Exterior walls: 98 m<sup>2</sup>
- Length / width / height: 14.4 m / 5.8 m / 6.2 m
- Useful area: 180 m<sup>2</sup>
- Roof area 131 m<sup>2</sup>

**Services of Timbatec**

- Statics and construction

**Timber construction engineers**

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