

# Renovation / new construction farmhouse summer, Büren zum Hof

2008

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A farmhouse in the center of the village (of monumental importance) in poor structural condition was to be renovated or partially replaced. The plan was to demolish and rebuild the farmhouse and only renovate the residential part.

## The project

When unpacking the residential part, it was then discovered that the supporting structure was no longer functional. So this part was also reconstructed down to the ceiling above the ground floor and rebuilt in timber element construction. A special challenge was to fit the newly constructed parts as element construction into the partly uneven existing parts. In the newly constructed building, 5 apartments with 4 ½ rooms each were created.

## The construction method

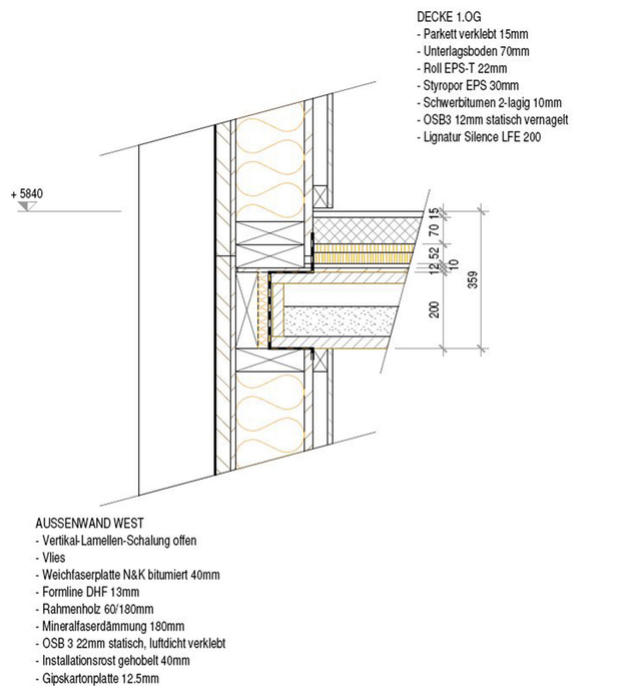
Due to the use of the floors (3 residential floors), the building project was classified as class Q2 in terms of fire protection. Thus a quality management in the project planning and execution could be kept. The supporting structure could be executed with building materials with fire resistance REI30. The exterior walls were built as timber frame construction with insulation with flexible wood fiber insulation boards; the floor slabs with LFE 500 mm lignature. Special attention was required for the floor ceilings, which, as apartment partition ceilings, had to achieve a sound insulation of  $L_n, w < 55$  dB and an airborne sound insulation of  $R_w > 52$  dB. This was achieved with Lignatur silence and additionally a two-layer heavy bitumen structure with a cement underlay.



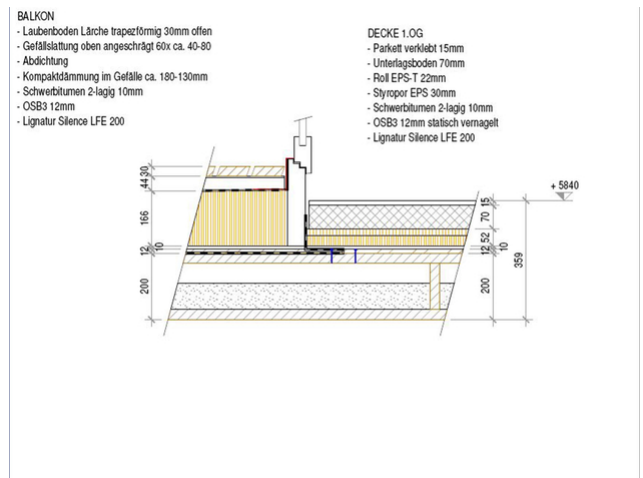
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Supports in wood



Connection ceiling - outer wall  
 Haus Sommer, Büren z. Hof  
 Aussenwand an Aussenwand West 1.OG



Transition ceiling - balcony west

### Construction Data

- Glulam GL24h: 10.4 m<sup>3</sup>
- Frame timber C24: 53.5 m<sup>3</sup>
- DUO beams C24: 28.8 m<sup>3</sup>
- Lignature Silence LFE 200: 153 m<sup>2</sup>
- Three-layer boards 27 mm: 678 m<sup>2</sup>
- Plasterboard 12.5 mm: 1250 m<sup>2</sup>
- Columns and beams and fasteners in steel: 2484 kg

### Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- SIA Phase 51 Implementation project
- Technical site management and site inspections
- Statics and construction
- Cost estimation

### Timber construction

BMH Bauen mit Holz  
 3313 Büren zum Hof

### Architect

Kohler + Partner Architekten AG  
 3014 Bern

### Timber construction engineers

Timbatec Holzbauingenieure Schweiz AG, Thun  
 3600 Thun

### Client

Sommer Marcel  
 3313 Büren zum Hof