

Addition of storey to apartment house Bruhin, Pfäffikon SZ

2008



On top of the existing two-family house in a natural location, new living space was created by a one to two-storey extension in timber frame construction. Special features are the underbeam-free flat roof construction and the floor-to-ceiling glass fronts.

The project

The unique feature of the existing building was that the architects had already taken into account the value of a generous combination of outdoor/indoor space at that time. This resulted in a building with extensive south-facing glazing. The load transfer points of the existing concrete ceiling were to be as slender and unobtrusive as possible. This was achieved with steel columns.



Exterior view

Construction Data

- 27 x 12 m
- 1 and 2-storey extension

Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- Structural analysis and design
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 51 Implementation project
- Site supervision and site inspections
- Cost estimation

The construction

Furthermore, no loads were to be transferred into the lintel area of the existing windows. This was achieved by load distribution strips, which distribute the roof load already in the upper area of the exterior wall to certain mullions outside the existing windows. The exterior walls in timber frame construction are internally covered with OSB boards 15 mm and gypsum plaster boards 15 mm. The exterior walls in timber frame construction are insulated and additionally covered with plastered exterior insulation. The green roof is designed as a simple rafter layer with three-layer panels and sloped insulation.

The challenge

A particular challenge of the new building was to distribute the loads in such a way that no disturbing supports were created in the interior of the room and in the generous south-facing glazing. Nevertheless, the loads had to be transferred precisely to the existing transfer points.



Top view

Architect

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