Apartment houses Wolf and Edelweiss, Andermatt

2017

After The Chedi Hotel, Timbatec has been awarded another contract in the Andermatt Reuss vacation village. For the two apartment buildings Wolf and Edelweiss, the timber engineers were responsible for the statics of the roof structure as well as for the fire protection of the shingle façade of the one residential building.

The project

The two new apartment buildings Wolf and Edelweiss are located directly at the new village piazza of Andermatt. They were developed in a joint venture between Schmid Immobilien AG in Ebikon and Sawiris' Andermatt Swiss Alps AG. Haus Edelweiss has 15 apartments with 2.5 to 4.5 rooms and two spacious maisonettes under the roof. The Wolf House has 23 residential units: four maisonettes on the top floor and 2.5 to 4.5 room apartments on the lower floors. The challenge In both houses, the main roof was built as a carpentry structure in wood with thermal insulation in between. Andermatt, which is located at 1450 meters above sea level, has long winters with a lot of snow. The roofs of the two residential buildings must therefore withstand quite large loads - around nine kilonewtons per square meter, or about one ton.

The construction

The specification is also that, on the one hand, the supporting structures of the roofs should not be visible from the outside. They had to be practically completely hidden in the building. On the other hand, the loads could not be transferred via the walls because of the interior design.

The challenge

Another challenge was the larch shingle façade on the Wolf House. Because there are no indications of fire behavior for this, Timbatec had to carry out a fire test. At the Civil Defense Training Center in Erstfeld, the shingle façade was reconstructed at a height of five meters and a fire test was carried out under controlled conditions. Thanks to this test, it was possible to demonstrate to the fire protection authorities that the protection goals for this façade were achieved.

Heavy-duty roofs: Timbatec planned the roof structures

Apartment house Wolf: Covered with wooden shingles from top to bottom

In detail: part of the larch wood facade

A fire test of the shingle facade

Construction Data

- Roof area house Wolf 760 m^2
- Glued laminated timber roof House Wolf 78 m^3
- Constructed wood roof house Wolf 130 m^3
- Shingled facade house Wolf 1100 m^2
- Roof area house Edelweiss 600 m^2
- Glued laminated timber roof Edelweiss 23 m^3
- Built-in wood roof house Edelweiss 100 m^3

Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- Fire protection planning
- Site management and site inspections
- SIA Phase 41 Tendering and comparison of offers
- SIA Phase 51 Implementation project
- Structural analysis and design
- cost estimation
- Execution of fire test

Client

Saschi Immobilien AG, 6490 Andermatt

Architect

Müller Sigrist, 8004 Zürich

General contractor

Schmid Generalunternehmung AG, 6030 Ebikon

Timber constructor, shingle facade Wolf House

Otto Schuler Holzbau GmbH, 6467 Schattdorf

Timber constructor, roof construction

Holzbau Bucher AG, 6064 Kerns

Timber construction engineers

Timbatec Holzbauingenieure Schweiz AG, 8005 Zürich