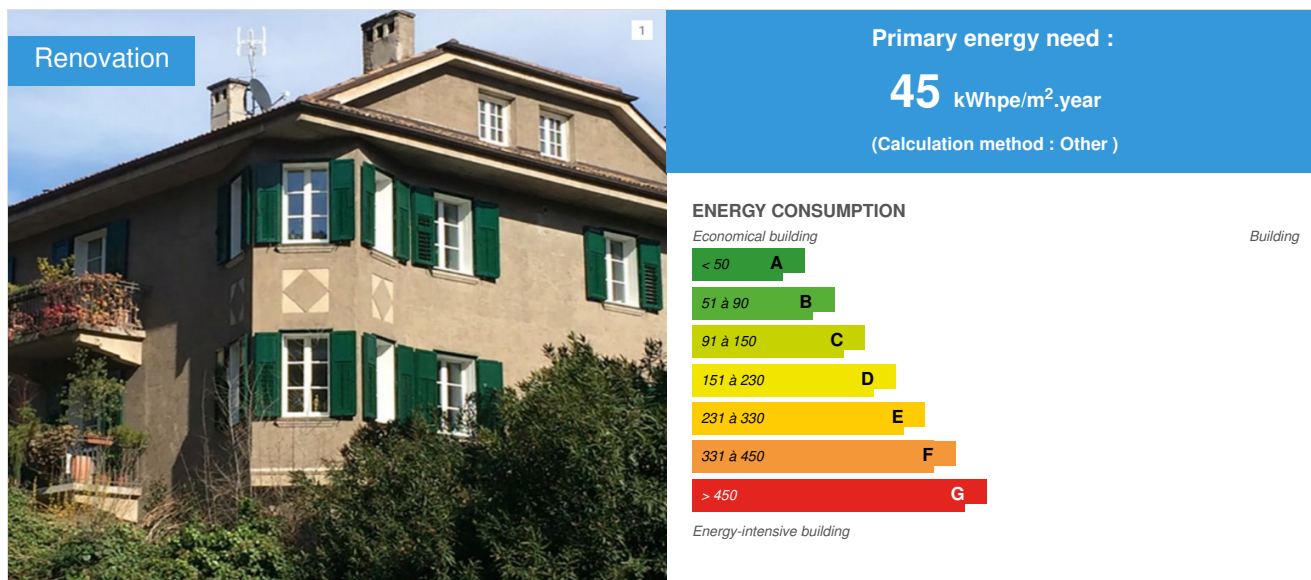


# House Moroder

by [Franziska Haas](#) / 2021-04-01 12:00:00 / International / 1982 / EN



**Building Type** : Isolated or semi-detached house  
**Construction Year** : 2015  
**Delivery year** :  
**Address 1 - street** : Horazstraße 39100 BOZEN, Italy  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

**Net Floor Area** : 96 m<sup>2</sup> Useful area (it)  
**Construction/refurbishment cost** : 500 000 €  
**Number of Dwelling** : 3 Dwelling  
**Cost/m2** : 5208.33 €/m<sup>2</sup>

Proposed by :

**eurac**  
research

## General information

The historic residential building in the middle of the city of Bolzano, which was built in 1926 near the old town, served for many years as a rental house for 3 apartments. After the acquisition by the current owner Mr. Moroder, important energetic renovation measures were arranged. The main goal of the renovation was the preservation of the visual image in connection with the best possible energy saving.

## Interior Insulation

In order to leave the facade untouched, all exterior walls in the interior were provided with a 10 cm thick interior insulation. The material TecTem from Knauf, made of perlite, was specially selected for use in contact with residents due to the natural material. Before the insulation was applied, layers of plaster were removed from the inner walls and the floor covering at the joints to the walls removed a few centimeters in order to be able to run the insulation underneath. This means that there should be no cold spots that could cause heat loss.

## Ventilation

To guarantee good air quality at all times and avoid wasting heat with every ventilation, all three flats were each equipped with their own ventilation system with heat recovery: the air ducts were led through the suspended ceiling, and the ventilations unit themselves were placed in the bathroom.

## See more details about this project

<https://www.hiberatlas.com/en/welcome-1.html>

[www.hiberatlas.com](https://www.hiberatlas.com)

## Photo credit

Photos: Arch. Michael Tribus / Helmuth Moroder / Floor plan: Arch. Augusto Visintini and Michael Tribus

## Stakeholders

### Contractor

Name : Helmuth Moroder

### Construction Manager

Name : Arch. Augusto Visintini

### Stakeholders

Function : Thermal consultancy agency

Arch. Michael Tribus Bozen/Italy

## If you had to do it again?

If the interior insulation is carried out consistently, even across the windows and interior walls, with the appropriate material thickness, the energy efficiency is just as high as with exterior insulation. Comfort in the interior is created by a warm surface temperature of the walls, regardless of whether it is an exterior or interior wall. Therefore, a constant room temperature is the ideal way to create a comfortable ambience. Due to a very strict and well thought-out organization of the craftsmen, the time frame of the renovation work could be kept to the day and a move-in was possible on the planned day.

## Building users opinion

Since a cooling and heating system is installed throughout the building after the renovation, the room temperature inside can be kept at a constant, comfortable level. This has greatly improved the comfort in the living spaces, as fluctuations in the outside temperature are no longer noticeable. The newly installed ventilation system ensures clear, fresh air in each apartment. Since this was installed separately per floor, it can be managed as needed. An automatic exchange of all air is currently performed every 2 hours, but can be increased or decreased as needed. Noticeable to the occupants is also the reduced amount of dust in the air.

## Energy

### Energy consumption

Primary energy need : 45,00 kWhpe/m<sup>2</sup>.year

Calculation method : Other

Initial consumption : 356,00 kWhpe/m<sup>2</sup>.year

### Envelope performance

Envelope U-Value : 0,42 W.m<sup>-2</sup>.K<sup>-1</sup>

## Renewables & systems

### Systems

Heating system :

- Heat pump

Hot water system :

- Heat pump

#### Cooling system :

- Radiant ceiling

#### Renewable systems :

- Heat pump

#### Other information on HVAC :

In order to guarantee good air quality at all times and at the same time avoid wasting heat with every ventilation, all three flats were each equipped with their own ventilation system with heat recovery: The air ducts were led through the suspended ceiling, and the ventilation unit themselves were placed in the bathroom. No holes had to be drilled in the façade to supply the fresh air and remove the stale air: The supply and exhaust air is guided via a custom construction in the bathroom window, inconspicuously housed in the area of the former tilting window above the transom.

Type ventilation system: Decentralized

Type flow regime: Overflow

Heat recovery: Yes

Humidity recovery: No

Nominal power: 0,27 kW

Electric power: 0,27 kW

Control system: Continue, 5 control points (30-150 m3/h)

## Environment

### Urban environment

The house is located in a residential area with mostly newer buildings, all built later than the existing house. The neighborhood is close to the old town with good access to shopping and restaurants. The Petrarca Park, located on the Talver River, is a 10-minute walk away.

## Costs

### Construction and exploitation costs

Total cost of the building : 500 000 €

## Carbon

### GHG emissions

GHG in use : 24,00 KgCO<sub>2</sub>/m<sup>2</sup>/year

Methodology used :

CasaClima protocol

## Contest

### Reasons for participating in the competition(s)

The Moroder House, dating from the 1930s, is one of the last remaining of its kind in Bolzano. The building is not listed, yet it was the owner's wish to preserve the exterior appearance with the historic plaster surfaces. Despite these preconditions, the 2015 renovation made it possible to significantly reduce the energy demand - by a factor of 9! Among other things, the interior insulation and highly efficient windows with triple glazing were key factors in achieving this goal. The heating requirements are covered by a heat pump. The highly efficient ventilation system ensures both the safety of the construction and a healthy indoor climate.

### Building candidate in the category



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