

# Office and administration building Rheinfelden (Switzerland)

## Brief description:

Facade renovation (including windows) for an office and administration building

Client: FrymaKoruma AG

Technical planner/architect: Stefan Haas, energy consultant, IWB Basel/FKN Swiss AG

Facade company:

FKN FASSADEN GmbH & Co. KG, Neuenstein

Construction year: 1965

Renovation: 2015

Location: Rheinfelden, Switzerland

Range of services: Facade renovation, incl. windows

## Description of property:

- Office/administration building
- Use: work areas for 35 employees, IT server room, four conference rooms and archive
- Room volume approx. 4,200 m<sup>3</sup>

## Energy standard before renovation:

- Construction type I: rainscreen insulation approx. 7 cm PU
- Construction type II: plastered masonry

## Result:

- Insulation: 72 mm Multisan CT panel insulated with CALOSTAT® and vacuum insulation panel (VIP); decorative facade: blue PLEXIGLAS® Mineral
- Facade U-value < 0.18 W/(m<sup>2</sup> K)
- Planned reduction in energy consumption: approx. 200,000 kWh/a—for the windows 62,710 kWh/a with CO<sub>2</sub> savings of 12.6 t CO<sub>2</sub>/a and for the facade 143,201 kWh/a with CO<sub>2</sub> savings of 28.9 t CO<sub>2</sub>/a.



### **Facades – a sign of quality**

Markus Schröder is a man with high standards. He demands top quality and reliability from his 145 employees, who produce up to 200 special mills for the food, cosmetics, and pharmaceutical industries every year. And his standards were just as strict for the facade renovation of the FrymaKoruma office building in Rheinfelden, Switzerland, which had been constructed 50 years previously. "When it comes to energy we are major consumers – not of electricity, however, but of heat," says the management spokesperson. "We really had to do something as soon as possible." This is how Mr. Schröder came across FKN Fassaden. The company constructed a slim, space-saving facade element for the building that is water-repellent and non-flammable. The inspiration for this came from Evonik researchers in 2012. The result was a sandwich of PLEXIGLAS® Mineral, CALOSTAT®, and a vacuum insulation panel (VIP). Exhibits were put together to gain partners for the element. The first was FKN. The Fryma Koruma office building project has laid the foundation for future success. "In my view, a company's worth is reflected in its standards for quality and reliability," says Markus Schröder. And in Rheinfelden in Switzerland, the facade makes this plain for all to see.

### **The facts**

A sandwich of PLEXIGLAS® Mineral, CALOSTAT®, and a vacuum insulation panel, only twelve centimeters thick, is enough to achieve passive-house standard. Buildings from the seventies and eighties are starting to show their age. Their installation is practically non-existent or damaged. Facades, which make up one quarter of the building surface, are not leaktight or they fail to meet energy requirements. Intelligent building envelopes allow substantial amounts of energy to be saved. The energy consumption of the FrymaKoruma office building was reduced by a quarter once all the work had been completed. As well as having the facade renovated, the client had triple-glazing windows installed. "The amount of insulation provided by our facade element is five times greater than before. The new glazing is six times more efficient than the old," says Franz Ebert, head of sales at FKN Fassaden.

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