



VIPA International Case Study

VIP technology simplifies the energetic refurbishment of an office building built in the 1960s.

The Problem

The 50 years old office building of FrymaKoruma in Rheinfelden, Switzerland was originally insulated with 70 mm PU foam which was fixed in between pilaster strips. 300 mm of mineral wool would have been required to achieve the requested U value of $< 0.18 \text{ W}/(\text{m}^2\cdot\text{K})$. That means that the entire façade structure inclusive the pilaster strips had to be replaced and all front buildings, the roof, the carpark in front of the building, etc. had to be adapted. Additionally the windows would have become loop-holes.

The Solution

The office building was refurbished with façade elements containing 72 mm CALOSTAT®/VIP/CALOSTAT® heat insulation sandwiches. This high efficient insulation system provides the requested U value, is fire retardant for 90 minutes (F90) and is slim enough so that the existing façade structure inclusive the pilaster strips could be preserved and re-used. No adaption of other parts of the building and the surrounding was necessary. The construction costs and time could be reduced and the shape of the building was maintained.

The Result

The heating energy consumption of the 4,200 m³ large office building could be reduced from 333,000 kWh/a to calculated 200,000 kWh/a by the façade and window refurbishment and by achieving an U value below $0.18 \text{ W}/(\text{m}^2\cdot\text{K})$. *“Due to the minimally invasive construction work we could ensure to continue working in the office building without moving the workplaces. Any other solution would have been worse and would have had massive consequences for the workflow during the construction phase.”* said Markus Schröder, FrymaKoruma’s Managing Director.

The used CALOSTAT®/VIP/CALOSTAT® insulation sandwich provides another big advantage: In contrast to most other insulation materials the λ value of the used system is not a function of temperature. Its λ value is almost constant and therefore also provides excellent insulation in summer. The λ value of all standard insulation materials increase with increasing temperatures which means that the buildings heat up much faster in summertime and more energy for air-conditioning is required. As multilayer system the VIP insulation is fire retardant for more than 90 minutes (F90).

Case Study provided by Evonik and Porextherm

VACUUM INSULATION PANEL



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About VIPA International:

The Vacuum Insulation Panel Association is a global trade association representing the interests of manufacturers of vacuum insulation panels as well as supply chain. The mission of the association is to act as the global voice of the vacuum insulation panel industry, promote quality and raise awareness of the potential to save space and energy costs and to reduce carbon dioxide emissions in a wide range of applications and industries. VIPA International is a 501 (c) (6) not-for-profit organisation incorporated under the law of the State of Delaware in the United States of America.

The association was created in August 2014 by ten founding members.

For more information visit the website: www.vipa-international.org or contact the global office at VIPA-international@kelleneurope.com