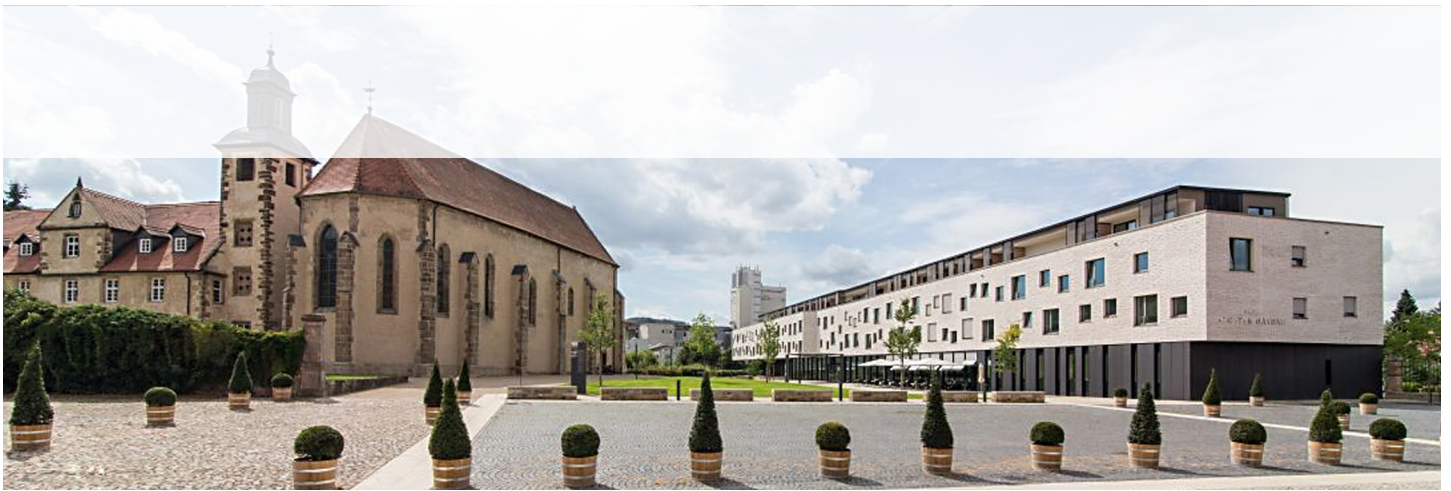




Polybutene
Piping Systems Association

Case Study

Haydau Monastery, DE



Thermaflex | Flexalen



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Haydau Monastery, AT

Thermaflex | Flexalen



Flexalen PB-1 piping delivers heating and cooling to historic monastery hotel

The Hessian heritage convent Haydau has been converted into an international conference complex with modern hotel facilities. The power source is almost completely undertaken by the biogas plant situated nearby, which delivers not only electricity and heating, but also provides cooling water for the hotel's air conditioning. The heating and cooling water is transported by an approximately two kilometer long Flexalen pre-insulated Polybutene-1 (Polybutylene, PB-1) piping system made by PBPSA member company Thermaflex.



The 13th century monastery Haydau is the best preserved Cistercian monastery in the German state of Hessen. The first extensive renovation work from 1985 to 2001 saved the historic structures and opened the monastery to the broader public. The construction over a three year period transformed the medieval monastery into a modern cultural and communication center with 136 hotel rooms, 27 meeting rooms, several apartments and a spacious spa area.

Haydau Monastery, AT

Project Details

The energy for heating and cooling of the monastery complex is provided by a new, highly efficient biogas plant, which is located approximately two miles from the convention center. It not only provides the basic heat supply for the buildings, but it also produces electricity, which is fed into the regional electricity grid. The innovative, installation-friendly Flexalen PB-1 system proved ideal for the job. The Polybutene-1 pipes and connectors form a high-performance system that is pressure- and temperature-resistant up to 95°C and 8 bar.



Goals

To supply the historical building with an efficient heating and cooling solution, while preserving the historic spatial effect as well as possible. For an efficient energy transport medium, the pipes had to be well insulated to minimize energy loss, and protected against corrosion.

To keep the construction and operating costs to a minimum, only system-tested pipelines were to be chosen. The pipes should be easy to install, require no maintenance and function safely for decades to come.

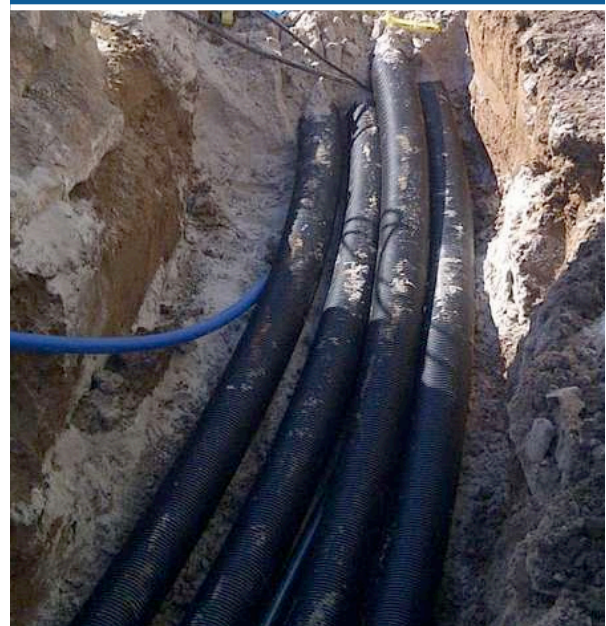
Results

Because of the conservation provisions, the reconstruction works were very demanding. In order to preserve the space, the historic building was supplied with a modern temperature control unit during the rehabilitation work.

The virtually invisible installed system provides radiant heat through the building envelope, which makes a particularly constant room temperature control possible. At the same time the building

STATISTICS

- 2,100 m of Flexalen pipes for hot and cold water
- 136 hotel rooms and apartments
- 27 meeting rooms
- 260 KW to meet project needs



Haydau Monastery, AT

structure is permanently protected from moisture. The grounds of the monastery's newly-built hotel complex was equipped with a modern heating system and air conditioning. As the Flexalen pipes are very flexible, the laying of the pipes from a coil in practice turned out to be very installation-friendly. The installation of all refrigeration and heating lines were done quickly and easily with just a few pipe joints. The connections were made by homogeneous welds on a tailor-welded fitting system. For the energy supply of the conference hotel and monastery, approximately 2.100 meters of our hassle-free and maintenance-free Flexalen PB-1 system could be installed over a short period.

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July 2021

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