

UTILIZATION OF EXCESS HEAT FROM BIGADAN IN HORSENS, DENMARK



[Flexalen PU SL](#)

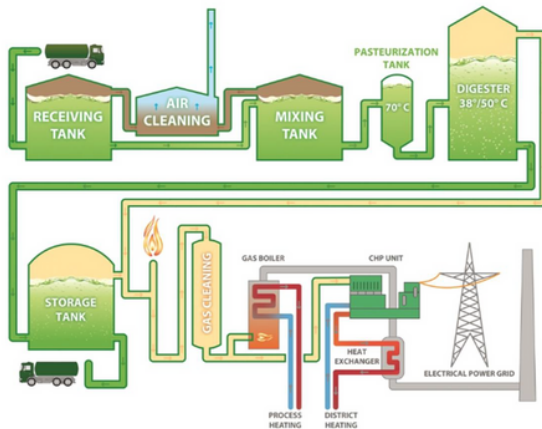


[Flexalen prefabrications](#)



OBJECTIVES

In connection with the expansion of the Danish biomass consortium Bigadan's new factory in Horsens, District heating Horsens has been allowed to use the excess heat from various production methods in their district heating network. District heating Horsens chose to use Flexalen pre-insulated plastic pipes instead of steel pipes. This initiative aimed to reduce maintenance needs and improve flow speed, energy efficiency, and the durability of the network's lifespan.




PROCESS

District heating Horsens efficiently harnesses excess heat from four distinct sources: methane concentration, manure cooling, CO₂ condensation, and biogas liquefaction. The surplus heat generated from LBG, CO₂ condensation, and biomass production is gathered and directed into the existing supply network, resulting in an approximate 8.3 MW surplus. When combined with electricity derived from heat pumps, this amalgamation yields a total heat output of around 15.3 MW.

To facilitate the effective transport and distribution of this excess heat, District heating Horsens opted for Flexalen pre-insulated plastic pipes. This forward-thinking solution not only minimizes heat loss during transportation but also reduces maintenance requirements, improves flow rate, enhances energy efficiency, and contributes to environmental sustainability by lessening the project's overall environmental footprint.

PROJECT LOCATION


 Horsens, Denmark


AT A GLANCE

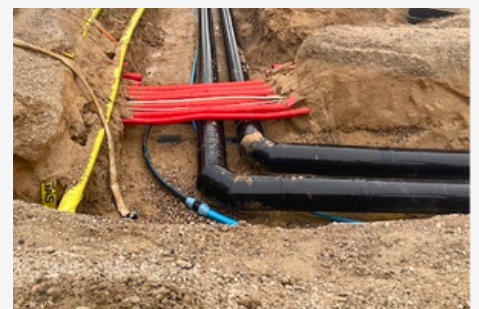
- Duration: 2 Years
- 2,000 meters of pre-insulated PB pipes

APPLICATIONS

- Excess Heat from Biomass

 www.thermaflex.com

 international@thermaflex.com



UTILIZATION OF EXCESS HEAT FROM BIGADAN IN HORSENS, DENMARK



[Flexalen PU SL](#)



[Flexalen prefabrications](#)

PROCESS

The installation involved a comprehensive deployment of both pre-insulated and uninsulated pipes. With diameters spanning from Ø125 mm to Ø225 mm, the pipes were strategically placed across various buildings, totaling approximately 2,000 meters. Flexalen plastic pipes in PB material were expertly welded on-site in extensive lengths and laid continuously. The remarkable flexibility and swift installation of Flexalen were instrumental in implementing the finalized pipe system. All pipes, delivered in 12-meter lengths, strategically minimized bends in the project, with the exceptional flexibility of the PB material being leveraged. For larger dimensions, Flexalen pre-fabricated bends were indispensable to ensure seamless installation in buildings.

The welding process was carried out by certified welders with great precision and reliability by Scanpipe, using mirror and electro-welding techniques. This team contributed to ensuring compliance with the project schedule.

RESULTS

The project started in 2022 and concluded at the end of 2023. The implementation resulted in an operational network for District heating Horsens based on the use of excess heat from the biomass plant. This initiative serves as a model for innovative and sustainable practices in environmentally friendly resource utilization. The choice of Flexalen pre-insulated plastic pipes in this project also contributes to the environment by reducing energy waste and carbon emissions.

By using Flexalen plastic pipes, maintenance requirements in the network are minimal throughout its lifespan. District heating Horsens, by using excess heat, has contributed to achieving Denmark's environmental goals and reducing its carbon footprint. Thermaflex's involvement in this project as a pipe supplier has been in close collaboration with District heating Horsens and the welding team from ScanPipe. We appreciate the cooperation and mutual trust that was fundamental to the execution of this project.

