CASE STUDY

Flexalen® for biogas plant piping network



Thermaflex contributes to Norway’s transition towards fossil-free energy

A new biogas plant in Hustadvika required a dependable underground network to transport heating and cooling media between multiple buildings. Flexalen® 600 and Flexalen® PU were chosen for the complete system.

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Project background

Havila Biogass developed the facility in the Varhol industrial area of Hustadvika, central Norway. The plant converts cattle manure and other organic substrates into compressed biogas (CBG), returning vital nutrients to local agriculture as biofertiliser. Designed for an annual intake of over **134,000 tonnes of biomass**, the facility delivers a technical production capacity of approximately 68 GWh of renewable energy each year. To support this volume, the site required a robust utility network linking the reception hall, logistics areas, process hall, and industrial building.

Project goal

Biogenic Denmark, acting as pipe network designer and consultant, required a reliable pre-insulated piping system capable of carrying both heating and cooling media across operating temperatures **from 2 °C to even 95 °C** in one pipeline. Secure welded connections, flexibility, and safe on-site installation were critical criteria. Because the underground network combined varied diameters and custom branches, delivery reliability, clear technical documentation, and hands-on installation support were essential to keep the schedule on track.

Solutions

Thermaflex partnered with Biogenic Denmark from the tender stage, supplying **Flexalen 600 and Flexalen PU** pre-insulated piping systems. The project comprised 666 metres of pipe in diameters from **32 mm to 80 mm, together with 44 prefabricated components**, including 4 factory prefabricated T-pieces, together with brass fittings, electrofusion sockets, flanges and end caps.

Supplying flexible pipes in continuous long coils allowed installers to run lines directly between buildings with minimal underground joints.

Prefabricated bends and T-pieces provided defined solutions for changes in direction and branch connections.







Project process

Thermaflex joined the project in August 2025, providing technical data sheets and presenting prefabrication options. To ensure smooth execution, Thermaflex supplied welding equipment on rental and provided local installation training. Biogenic Denmark completed the installation including welding and laying. Once the installation team adopted an efficient unrolling method for the long coils, pipe laying moved forward smoothly. When site adjustments introduced an additional pipe section, fast delivery of extra components prevented project delays. Construction finished on schedule at the end of June 2026, and the completed network successfully passed the leak test.







Results & Benefits

The completed network benefited from:

- **Fewer joints:** Long coils reduced the number of connections and welding on-site.
- **Efficient installation:** Prefabricated compoments helped reduce complex work on project site.
- **Reduced material waste:** Careful surveying helped limit unnecessary pipe cutting and material waste.
- **On-time completion:** Rapid access to additional components helped the team meet the deadline despite an added pipe section.
- **Long-term reliability:** The complete system is designed for a long service life and maintenance-free operation.



Conclusion

The Hustadvika biogas facility demonstrates how pre-insulated piping systems support circular industrial energy projects. Combining Flexalen 600 and Flexalen PU coils with prefabricated components provided a fast and leak-tight heating and cooling network. Early engineering guidance, equipment support, and responsive deliveries enabled Biogenic Denmark to meet strict milestones and establish a durable utility network.







Contractor's testimonial

"Overall, we experienced very good communication throughout the entire process, from start to finish. Documentation and instructions were provided early, which we greatly appreciate and consider important in our projects.
Additional components were also procured quickly when required, which supported project progress. The loan of the welding equipment was a great help.
The pipe installation itself was relatively problem-free, especially after we found an effective method for rolling out the pipes."

Victor Jensen, Biogenic's QA Department

Additional Information

Designer/Installer: Biogenic Denmark
Technical advisor/Installation trainer: Jan Hønning

Related products



Flexalen® 600



Flexalen® PU



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