

CASE STUDY

Flexalen® for District Heating Network



Thermaflex Enables Energy Transition in Nieuwe Wipwei, Roosendaal

Flexalen piping system transformed Roosendaal's heating infrastructure by repurposing waste heat from the Suez waste disposal plant.

De Nieuwe Wipwei Project

Situated in the vibrant community of Roosendaal, the Netherlands, this district heating project is strategically located to serve local residents and businesses with sustainable heating solutions, fostering a more resilient and environmentally conscious neighborhood.

Project Goals

Aligned with the Smart Climate Grid initiative, the project in Roosendaal aimed to install a fourth-generation district heating using **recycled heat** from a waste processing plant to secure sustainable comfort for local residents. This initiative also has environmental goals such as carbon emissions reduction, energy efficiency enhancement, and sustainable infrastructure development by **repurposing waste heat** from the Suez waste disposal plant, thereby reducing reliance on gas and advancing the city's sustainability goals.

Solutions

The **Cradle to Cradle Certified®** Flexalen piping system made from Polybutene-1 (PB1), delivered with plug-and-play Flexalink house connections proved to be the ideal solution for this project. Thermaflex's Flexalen pipe system has impressive **durability and recyclability**, aligning perfectly with the project's sustainability objectives. The solution helps to address the challenge of providing sustainable heating by efficiently utilizing **waste heat**, reducing maintenance needs, and ensuring long-term reliability.



Project Process

Together with [BAM Infra Nederland](#) and the municipal energy provider of Roosendaal, Thermaflex has expanded the innovative, low temperature heating network with the connection of the Nieuwe Wipwei district. This is a big next step in realizing the city's sustainability targets.

With an eye on the future, [Duurzaam Energiebedrijf Roosendaal](#) (Sustainable Energy Company Roosendaal) took the initiative to implement a **Smart Climate Grid** for the heat supply of a local college and residential district in 2012. The grid makes use of clean waste heat of 42°C from a local waste processing plant operated by [SUEZ](#) - energy that would otherwise be lost.

Already, this has cut the college's energy bill by **50%**. The connection of the new residential quarters to this unique district heating network marks an important milestone: heating individual homes based on the only low temperature district network in the Netherlands. By using low temperature (LT) waste heat, heat loss is significantly lower while ensuring a much higher thermal energy yield. In this way, sustainability and comfort go hand in hand.

In order to minimize disturbance for current residents, the partners took up the challenge to implement the entire network within 3 weeks, while at the same time securing a future-proof solution. This was implemented through a collaboration between Thermaflex and [BAM Infra Nederland](#) (expert in infrastructure and network installation). The expertise and structured approach by BAM also proved to be highly effective in the rapid installation of a reliable Low Temperature (LT) network, whereby disturbance to the local environment was kept to a minimum.



Results & Benefits

The project promotes sustainability using waste heat and recyclable materials, contributing to long-term environmental benefits. For Roosendaal, this is only a start. Of the 60 MWh waste heat capacity of the processing plant, only 5 MWh has been exploited. The success of this network expansion affirms the potential to expand it in the near future. Not only in the Netherlands, but all over the world's **waste heat** offers a much better alternative to conventional gas-fired heating, and is abundantly **available globally**.

With these types of innovative and highly scalable concepts, together with our clients, we demonstrate that the transition to sustainable energy while assuring optimal levels of comfort at lower energy bills is a challenge that can be easily handled collectively. This project exemplifies a successful integration of sustainability principles into urban infrastructure development, paving the way for a greener and more resilient future for Roosendaal.

Related Article: [Warmtenet Roosendaal – Stichting Warmtenetwerk](#)

Customer Testimonial


"We opted for a partnership with Thermaflex and BAM as the whole LT system is relatively new, which makes this a highly innovative Project. That's why we were looking for suitable partners with considerable know-how and experience to ensure a professional implementation."

Manon Ottens, Duurzaam Energiebedrijf Roosendaal (DER)

"Applying prefabricated elements allows for a much quicker installation. For every 2 residences, we need to make 2 welded connections. It's impossible to reach this kind of speed with steel pipes. Due to the flexibility of Flexalen and its availability on coil, you don't have to make a welded connection every 12 or 16 metres. This can be done by 1 installer alone, in 1 step."

Ruud Pennings, BAM Infra Energie & Water

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