


# CASE STUDY

Flexalen® 600 for Heating Network



## Thermaflex pre-insulated piping solutions enhancing energy efficiency at UNESCO World Heritage Stonehenge

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Flexalen piping range specified for Stonehenge visitor centre heating network.

# Stonehenge Visitor Centre

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The Stonehenge Visitor Centre, positioned 2km west of the iconic stone circle, was designed to blend seamlessly into the Salisbury Plain while preserving the site's integrity. The centre's construction required advanced technology and environmentally sensitive design to minimize impact on the historical landscape.

## Project Goals

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When dealing with a 2,500 year old **UNESCO** World Heritage site, sustainability and environmental sensitivity are crucial factors to consider.

The primary objective was to ensure renewable practices throughout the project. The planners sought innovative materials that could be used above and below ground. A key concern was to minimize environmental disturbance while securing an efficient, sustainable heat supply and reducing heat loss for optimized energy efficiency.

## Solution

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To achieve these goals, architects **Denton Corker Marshall** and their contractors (Spectrum HPM) specified Flexalen® technology for the piping network linked to the ground source heating scheme. **Flexalen®600** pre-insulated polybutene pipe is the world's only Cradle to Cradle Certified® solution, offering strength, flexibility, and sustainable construction credentials. These pipes feature closed-cell, water-tight polyolefin thermal insulation and a homogeneous connection between insulation and casing pipe, forming a fully welded system. Additionally, the lightweight profile of Flexalen® pipes makes them easier to handle and install, crucial for sensitive sites such as the terrain of this project.



# Project Process

The installation process was meticulously controlled due to the site's rich archaeological significance. The pipework was laid within a 2 meter infill on a landscape hollow. The **lightweight** profile, **flexibility**, and robustness of the Flexalen® pipes, with their HDPE outer casing, facilitated easier handling and installation, even in the site's challenging conditions.

The laying process was closely managed to avoid disturbing any archaeological remains. The precise installation ensured that the pipes were integrated into the landscape with minimal intervention, preserving the historical integrity of the site. This approach also involved continuous coordination among the project team to align construction activities with sustainability goals and archaeological preservation requirements.

# Results & Benefits

The new Stonehenge Visitor Centre is a model of advanced construction design and technology, from its canopy roof to its pipework infrastructure. The Flexalen® piping system provided a state-of-the-art solution, ensuring an efficient and sustainable heat supply.

- **Sustainability:** As the world's only Cradle to Cradle Certified® solution, they helped the project meet stringent environmental standards for a World Heritage site.
- **Controlled Installation:** The installation of Flexalen® pipes was carefully managed to avoid disturbing archaeological remains, preserving the site's historical significance. Their lightweight and flexible design made handling and installation easier, crucial for the sensitive conditions of the project.
- **Energy Efficiency:** Flexalen® pipes' low thermal conductivity reduced heat loss, optimizing energy efficiency in a low-carbon environment. The HDPE outer casing provided durability across a wide range of hot water temperatures.

The project highlights Thermaflex commitment to sustainability and innovation, contributing to the preservation of one of the world's most iconic landmarks.



# Testimonials

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*"Various strategies have been adopted in the design to ensure that the centre is environmentally sensitive and uses natural resources in a responsible way."*

*Partner at Denton Corker Marshall*

*"We selected the Flexalen® pipe system for this project because the Flexalen® 600 pre-insulated polybutene range brought strength, flexibility, broad temperature range and strong, sustainable construction credentials to the project – qualities that were critical on such a sensitive and nationally important site."*


*Project Engineer at Bristol-based Spectrum HPM Ltd*

*"One of the biggest concerns for this project was environmental sustainability – so the low thermal conductivity and consequent low heat loss of the selected pipe technology became important factors in the context of optimising energy efficiency in a low carbon environment."*

*"We're proud to be involved in a project that demonstrates such advanced construction design and technology, highlighting the importance of sustainability at a world-renowned heritage site."*

*Flexenergy Sales Director*

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