

## HOUSING THE MINISTRY OF DEFENCE IN EDIRNE, TURKEY

Designing performance: simplicity as a key virtue



Pre-insulated Flexalen pipes



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### OBJECTIVES

The Ministry of National Defense was looking for a reliable and durable solution without any risks of breakdowns by corrosion or other influences to replace the old, corroded heating network for their public housing complexes. In order to minimize cost and disturbance to the existing environment, an effective use of the existing infrastructure was also necessary.

### PROCESS

The project combined multiple boilers, previously spread over various blocks, in one room from which the entire heat supply for all apartments would be generated.

With our training support and close cooperation with the Ministry, the contractor and the installer, the new network design was greatly optimized: not only the lengths of the total pipe network were shortened; also the diameters could be significantly scaled down.

The project consisted of 3 heating zones to which heat was supplied from one boiler house. Liquefied natural gas was used as the heating source. A concrete trench was already in use for electrical cables and could therefore be used for our pre-insulated Flexalen pipes as well.

### RESULTS

When the contractor and installation company began the renovation of the heating network, they were unaware of the rapid speed and outstanding time they would reach to complete the project – which only totaled 2 days. This allowed adherence to tight time schedules and quick re-access for the local community.

Another key differentiator was the choice in pipe diameters. At first, oversized pipes were selected to anticipate further expansion. Though after several discussions, the Ministry was convinced to optimize pipe sizes and thereby maximize the efficiency of the distribution network.

### PROJECT INFORMATION

- 📍 Edirne, Turkey
- Duration of 2 days
- 34% savings on investment achieved with optimized network design to tackle -20 'uncomfortable' degrees temperatures in winter
- 12% yearly total savings

### APPLICATIONS

- Heating Network

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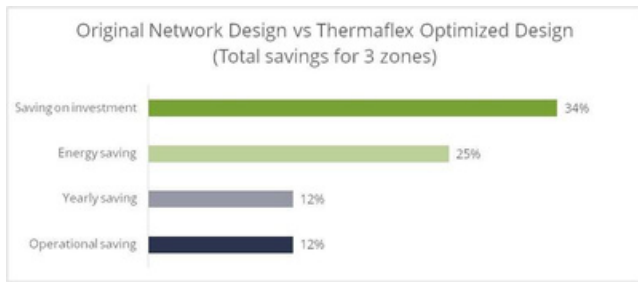


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## RESULTS

The difference in between the original network design and the optimized network design for the 3 zones resulted in significant savings, as displayed in the graph below:



The project owner, the Ministry of National Defense, was convinced of the quality and secure, homogeneous on-site welding technology. The introduction of our Flexalen technology presented a perfect match for their challenge, while at the same time securing a rapid and easy way to tackle it, and making an effective use of existing concrete galleries for the installation of the new pipes.

This paved the way for a great cooperation with Thermafex for future projects, too.

"I was not expecting to finish it before the date I planned, this saved time for me, in other parts of the project. The end result is also impressive."

**Faik Yılmaz**

Founding Partner of Daser Engineering

