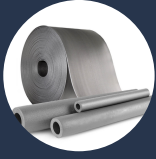


ZWIERZYŃIECKI (ZOO) BRIDGE RENOVATION



ThermaSmart® PRO



ThermaPUR



Certificates



PROJECT INTRODUCTION

The Zwierzyńiecki Bridge, also known as Zoo Bridge, is one of the oldest active crossings with maintained road and tram traffic in Wrocław. It spans the Oder River between the Wrocław Zoo and the Centennial Hall. The pipeline insulation of the renovation project on the bridge was a collaborative effort between Thermaflex and Probudowa Sp. z o.o., involving the Road and City Maintenance Council in Wrocław and Rotomat Sp. z o.o. The primary objective of this project is to restore the historic Zwierzyńiecki Bridge, a crucial element in Wrocław's cultural heritage and urban infrastructure, to its original splendor.

GOALS

Implement sustainable and durable insulation for the historical pipelines of the bridge meeting the following requirements:

- Reduce heat loss to improve energy efficiency.
- Effective and anti-corrosion insulation.
- Efficient installation in challenging construction conditions.
- Comply with the aesthetic requirements defined by the Investor (Fortum) and the Municipal Conservator of Monuments.

CHALLENGE

Originally constructed around 1655 with a wooden structure, the bridge has stood for over 300 years. Renovation and reconstruction works on the Zwierzyńiecki Bridge concern stone and steel historic elements. The aging infrastructure, compounded by a pre-war piping system, required proper insulation to preserve its integrity. This added complexity to the renovation efforts, requiring a unique solution that reduces maintenance needs and minimizes interventions in the original structure as much as possible. The renovation was carried out while maintaining car, tram, and pedestrian traffic with minor restrictions.

SOLUTION

Thermaflex is committed to collaborative problem-solving. Our approach involves thinking alongside our clients, ensuring that together, we engineer the most fitting solutions for the challenges at hand. In this spirit, our insulation technical experts André Jonscher and sales manager Lech Skomorowski synergized their expertise and innovative mindset to create bespoke solutions, ThermaSmart® PRO and ThermaPUR, tailored precisely to fortify the insulation of our historical pipelines within the water and urban heating networks.

PROJECT INFORMATION

- 📍 Zwierzyńiecki Bridge
Wrocław, Poland (PL)
- Customer and Installer:
Probudowa Sp. z o.o.
- Project Responsible at Thermaflex:
Lech Skomorowski
- Length of the bridge: 62 Meters
- Year of the project: 2022

APPLICATIONS

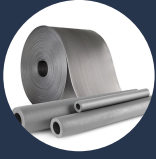
- Water and urban heating network

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PROJECT PROCESS

Following the restoration of steel pipelines, Thermaflex played a vital role by providing tailored insulation solutions with ThermaSmart® PRO and ThermaPUR products for the water mains tubes and the district heating pipelines.

For the water mains tubes, the Ø300 mm and Ø350 mm steel pipelines utilized overlapping ThermaSmart® PRO sheets with excellent vapour-proof properties. Additionally, sheet-covered ThermaPUR lagging comprehensively insulated this system. In this stage of the project, Thermaflex worked closely with MPWiK, responsible for the Municipal Water Supply in Wrocław.

For district heating pipelines, to reduce heat loss, ThermaPUR & Wool 350/90 mm insulation in galvanized titanium sheet was applied on the existing 210 meters long pipes after the cleaning process finished. The special sheet metal also had to meet the aesthetic requirements of the Investor (Fortum) and, specifically, the Municipal Conservator of Monuments, considering the historical importance of the building. Thermaflex products not only provided versatility but also proved sustainable for the needs of municipal network operators.

Insulation materials with a long lifespan like ThermaSmart® PRO and ThermaPUR are crucial for historical structures. They minimize the need for maintenance, which helps to preserve the integrity of these significant buildings. Especially the Cradle to Cradle® Certified ThermaSmart® PRO ensures technical compatibility with environmental consciousness, which is much needed on this historic bridge.

RESULTS

Thermaflex contributed to the project's success by achieving the following results:

- Implementation of ThermaSmart® PRO and ThermaPUR products resulted in a notable improvement in energy efficiency by minimizing heat loss in the piping system and heating network.
- The corrosion free solution and long product lifespan ensure minimal maintenance and sustainability of the bridge, which adhered to the aesthetic requirements, ensuring the preservation of the historical significance of the bridge.
- The quick insulation installation contributed to meeting the project's planned schedule and minimized disruptions to the original structure and the usage of the bridge.
- The load-bearing capacity of the Zwierzyński Bridge remains the same after the renovation works.



"Thermaflex provided us with full technical support, and thanks to the smooth and seamless delivery of products to the site, the course of work for the insulation of the water and district heating network progressed smoothly and according to plan."

Artur Ochmański
Contract Construction Manager of
Probudowa Sp. z o.o