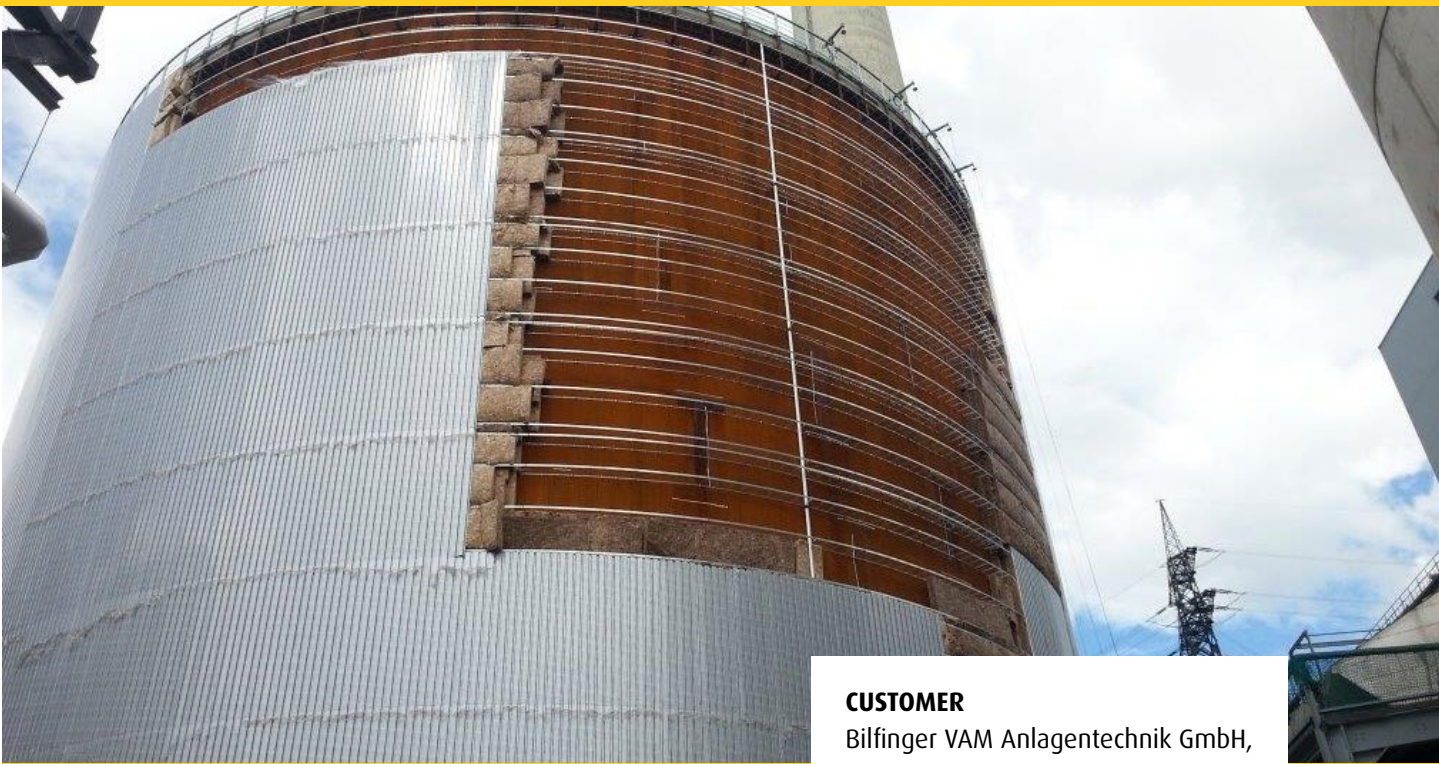


Grosskraftwerk Mannheim AG

Insulation supports energy revolution

The team from Wrede & Niedecken (W&N) insulated the district heating storage module of the Grosskraftwerk Mannheim AG (GKM) power station – significantly increasing its energy efficiency.



Insulation

Fire Protection

Noise Control

The GKM is one of Europe's most efficient coal-fired power stations. It uses the combined heat and power principle to generate safe and environmentally friendly electricity and district heating supplies. Unused heat does not escape into the environment. Moreover, district heating storage modules can be activated/deactivated quickly so the plant can respond flexibly to changes in energy demand.

CUSTOMER

Bilfinger VAM Anlagentechnik GmbH,
Wels (Austria)

PROJECT

Insulation of the GKM district heating storage module

PERIOD OF EXECUTION

03/2013–09/2013

WALL AREA INSULATED

4,500 m²

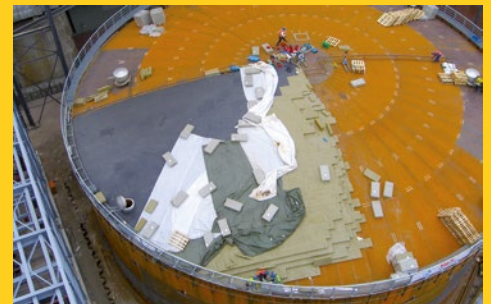
ROOF AREA INSULATED

1,300 m²



As part of the project for the construction of the new district heating storage module in the „Dr. Hedbäck system“ (named after the Swedish engineer Dr. Anders Hedbäck), the Maxdorf branch of W&N was commissioned to insulate the roof and walls of the storage module. During the installation of the tank, the technicians insulated the 40 m wide roof of the storage module with pressure resistant roof insulation panels and covered it with roofing quality plastic sheeting. W&N then insulated the walls of the storage

module with 500 mm rock wool mats. These contain formaldehyde-free binding agents based primarily on natural organic materials and reduce not only energy consumption but also noise emissions. The insulation was faced with trapezoidal and aluminum-zinc metal sheeting. Mounting platforms were used to install the insulation. This avoided the construction of complex scaffolding. The highly efficient thermal insulation system was installed successfully.



TASK

- Insulation of a district heating storage module with high thickness insulating materials (total area: 5,800 m²)
- Installation using rope and scissor lift platforms
- Energy efficient, professional construction in accordance with DIN standards

SOLUTION

- Pressure resistant roof insulation panels with sheeting cover
- 500 mm thick rock wool mats
- Faced using trapezoidal and aluminum-zinc metal sheeting
- Optimization of spacer design

ADVANTAGES

- Efficient installation system using high thickness insulation
- Heat flux density <math>< 12 \text{ W/m}^2</math>
- 80% reduction in heat loss compared to standard insulation
- 40% capital return with an amortization period of 2½ years



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