

## E.ON / Uniper Kraftwerke GmbH Insulation for a modern hard coal power plant

For the new power plant Datteln 4 at the Dortmund-Ems Canal, G+H installed heat and sound insulation for pipes covering an area of 68,000 sqm, including an electrical trace heating system with wiring and cabinets, and noise control measures.



Insulation

Fire Protection

Noise Control

The new hard coal power plant Datteln 4 at the Dortmund-Ems Canal is a monoblock facility with a gross output of 1,100 MW and an electrical net efficiency of 45 percent. It supplies electricity for public utilities and railroad lines, and produces environmentally friendly district heating for about 100,000 households in the region through its combined heat and power generation. After successfully completing two projects together already, E.ON / Uniper awarded G+H the contract for insulation.

### CUSTOMER

E.ON / Uniper Kraftwerke GmbH

### PROJECT

Heat insulation for pipes as well as an electrical trace heating system, including wiring and cabinets, and noise control measures.

### CONSTRUCTION PERIOD

11/2009 – 06/2013 Main phase  
07/2013 – 06/2016 Building freeze  
07/2016 – 03/2018 Pipe bridges/  
remaining tasks

### INSULATED SURFACE AREA

68,000 sqm



G+H installed heat insulation for HP, MP, and NP pipes as well as an electrical trace heating system, including wiring and cabinets. As a supporting noise control measure, the transformer was equipped with a custom housing. For the vertical HP downpipes, a G+H-developed substructure of high quality stainless steels suspended on cams, was used. It stops the insulation from shifting and consequently prevents heat penetration. Since the temperature inside the HP downpipes reaches

over 600°C, a 2-layer insulation of CMS fibers along with 3 to 4 layers of wool with a total of 400 mm of insulation thickness was installed. Confined spaces prevented the installation of the required insulation in some places; G+H's experts instead utilized the special insulation material Pyrogel – a thin mat suited for high temperatures – in 10 layers of 10 mm each. The installation of the trace heating system for outside areas was executed by G+H's partner company Thimm GmbH.



## TASK

- Heat and sound insulation for pipes covering an area of 68,000 sqm
- Electrical trace heating system for pipes, including wiring and cabinets
- Additional noise control measures for the transformer

## SOLUTION

- 400 mm of CMS fibers and MF wool or 100 mm of Pyrogel (special insulation material)
- Custom substructure for vertical HP downpipes
- Heating cables for pipes, including wiring and cabinets
- Noise control housing for the transformer

## ADVANTAGES

- Increased energy efficiency
- Substructure stops insulation from shifting, preventing heat penetration
- Frost protection for pipes in outside areas by electrical trace heating system
- Transformer noise reduced to a minimum