



SIKA AT WORK

BINHAI NORTH H2# 400 MW OFFSHORE WINDFARM SUBSTATION INSTALLATION, BINHAI COUNTY, CHINA

SUBSTATION JACKET FOUNDATION INSTALLATION
OFFSHORE GROUTING SERVICES
SUPPLY OF UHPC MATERIALS

BUILDING TRUST



OFFSHORE WINDFARM SUBSTATION JACKET FOUNDATION INSTALLATION



PROJECT DESCRIPTION

The Binhai North Phase 2 is being developed by the State Power Investment Corporation (SPIC) of China. The wind farm comprises 100 units of 4 MW wind turbines and a 400 MW substation, which will be installed some 22 km off the coast. The newly installed jacket structure will be supporting the 400 MW substation, which weighs 3,200 tons, and is the largest of its kind in Asia. The Danish engineering, design, and consultancy company Ramboll are designing the wind farm, which when completed, will rank among the top five largest offshore power generation capacities in the world.

Project name: 400 MW offshore windfarm substation installation
Location: Binhai County, Jiangsu province, China
Year: 2017
Key market: Offshore Wind

PROJECT REQUIREMENTS

The team was faced with challenging weather and strong winds but completed the grouting operation without any technical or operational difficulties. A grout with a very high compressive strength of 120 MPa was required before the subsequent installation of the topside module onto the jacket structure could take place. Grouting the pile-sleeve connections with internal shear keys using SikaGrout®-9550 UHPC achieved high early compressive strength, allowing the topside module installation to proceed quickly, even in low sea temperatures of 13°C. The long-term grout strength requirement is a 140 MPa minimum.

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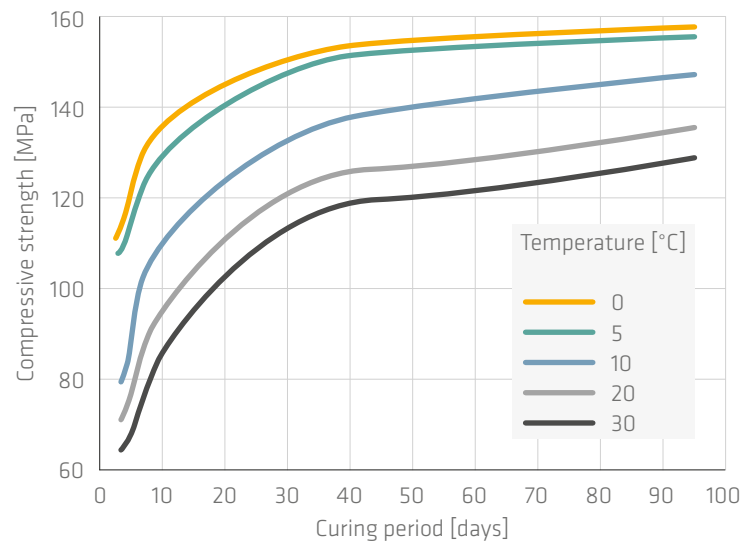
SIKA SOLUTIONS

Sika provided grouting materials, technical expertise and manpower for grouting operations (30 hours) that included qualified and experienced offshore grouting personnel, equipment (i.e. mixers, pumps, downhole camera etc.) for executing the scope of works. We also supplied 270 tons of ultra-high performance cementitious (UHPC) SikaGrout®-9550 mix along with binder lubricant mix for subsea grouting operations at an approximate water depth of -15m.

CUSTOMER BENEFITS

- The professionalism and the operational knowledge of the grouting team won praise from the client as the grouting operation was completed ahead of schedule despite bad weather conditions.
- SikaGrout®-9550 is the ideal material for offshore wind turbine foundations and ensures a long-term solution that is state of the art within the industry.
- SikaGrout®-9550 has been verified by DNV, as well as tested and certified by MPA BAU under the DAfStb Guideline (Germany) and CE marked to EN1504-6.
- The product exhibits high early-age strength as illustrated in the strength development chart on the right.

SikaGrout®-9550 strength development



PROJECT PARTICIPANTS

Project owner: State Power Investment Corporation (SPIC) of China
 Contractor: Nantong Jubo Offshore Company

Any product name or reference reflects the Sika product name at the time of creation of this document and may differ from the product name or reference during past events.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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