



SIKA AT WORK

REPAIR OF CONDUCTOR CASINGS USING ENGINEERED GROUTED CLAMPS

OFFSHORE & MARINE CONSTRUCTION
CONVENTIONAL ENERGY

BUILDING TRUST



REPAIR OF CONDUCTOR CASINGS USING ENGINEERED GROUTED CLAMPS



PROJECT DESCRIPTION

In March 2017, Shell India (formerly BG Exploration & Production India Ltd.) identified a critical structural issue on the PA3 Platform in the Panna Mukta Field offshore India. A parted conductor casing had left internal casings exposed, jeopardizing the structural integrity and safe operation of the platform. Sika was engaged to deliver a full engineering and execution solution to restore the conductor's integrity and ensure continued safe production.

Over a period of just 11 days, Sika successfully executed the repair, combining advanced engineering design, custom-fabricated components, and high-performance offshore grouting.

Project name: Repair of Conductor Casings Using Engineered Grouted Clamps
Client: Shell India
Location: Panna Mukta Field, PA3 Platform, India
Year: 2017
Application: Repair and maintenance
Product: A predecessor of SikaGrout®-9550

PROJECT REQUIREMENTS

The parted conductor casing presented both structural and operational risks, requiring immediate intervention to avoid potential failures. The client needed a solution capable of realigning the damaged casing, reinstating mechanical strength, and providing durable protection against further deterioration.

The repair had to be performed without diver intervention, given the safety constraints and complexities of working in the splash zone, where tides and wave action significantly affect operations.

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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SIKA SOLUTIONS

Sika commenced the project with a pre-engineering survey of the damaged conductor, gathering critical measurements and site conditions to inform the repair design. Detailed engineering analyses were carried out, including structural evaluations and finite element analysis, to develop a robust repair methodology.

Sika designed an engineered external grouted clamp specifically tailored for the site geometry and loading conditions. Fabrication of the clamp was conducted under strict quality control protocols, with stage-wise inspections performed alongside the client and third-party inspectors to verify compliance with specifications.

Once fabricated, the clamp and all necessary hardware – including bolts, nuts, and grouting accessories – were transported offshore. During offshore operations, the damaged conductor was realigned, and the clamp was installed around it. Despite challenges posed by high tides at the -3 meter elevation splash zone, Sika's team coordinated activities using tide charts and executed cleaning, alignment, and installation work during low tide windows.

The annular space between the clamp and the conductor was filled with a predecessor of SikaGrout®-9550, an ultra-high-performance cementitious material offering exceptional compressive and flexural strength, as well as excellent adhesion and low permeability. Throughout the project, Sika provided comprehensive project management services, offshore personnel, equipment such as mixers, pumps, downhole cameras, and high-pressure water jetting systems. Post-installation surveys and detailed documentation ensured quality and client assurance.

CUSTOMER BENEFITS

Sika's diverless repair approach delivered substantial time and cost savings compared to traditional diver-assisted methods. The use of a custom-engineered grouted clamp, combined with high-performance UHPC materials, restored the conductor's structural integrity and provided long-term protection against corrosion and mechanical degradation.

Rigorous quality control, close coordination with client representatives, and flexible offshore execution ensured that the project was completed safely, efficiently, and to the highest engineering standards. effective and economical, providing ONGC with a sustainable method for strengthening critical offshore structures without production downtime.

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