

# Resin Rich Roebel Stator Bars Design & Manufacture

Quartzelec delivered a full turnkey on-site rewind for PDO's stator—deemed unrepairable by the OEM—using reverse-engineered, resin-rich Roebel bars, restoring full generator operation efficiently

PETROLEUM DEVELOPMENT OMAN (PDO) | PETROLEUM | OMAN, MIDDLE EAST

## Our Customer's Challenge

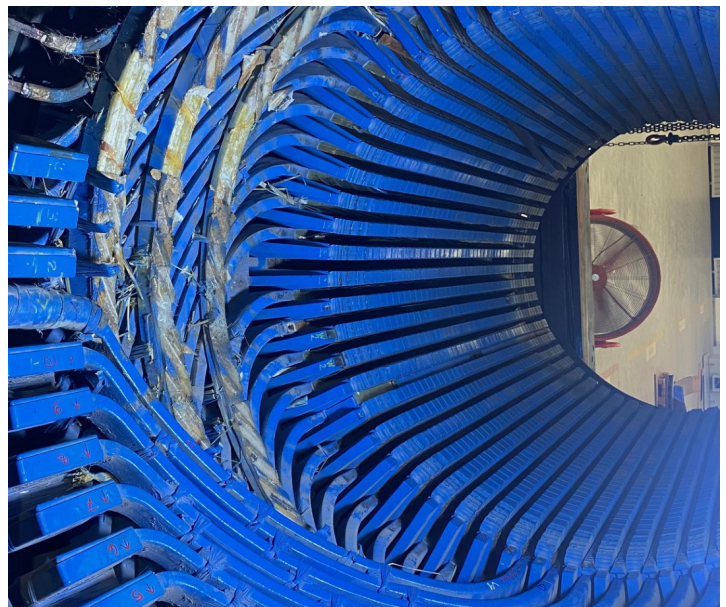
PDO faced a significant challenge when their VPI-wound stator failed — a unit deemed unrepairable by the OEM. The client required a complete rewind using Roebel stator bars manufactured with the latest resin-rich technologies and requested the rewind be carried out on-site by Quartzelec Abu Dhabi to avoid the high costs of removal and shipping, while minimising machine downtime.

## The Quartzelec Solution

Site engineers from Quartzelec Abu Dhabi conducted thorough measurements of the existing stator windings, which were then sent to Quartzcoil, part of the Quartzelec group of companies technical team for review. This allowed for the development of a reverse-engineered solution, which was presented to the client. Once approved, Quartzcoil successfully manufactured 120 Roebel Resin Rich stator bars, each with a 360° design, within just 24 weeks from design to shipment.

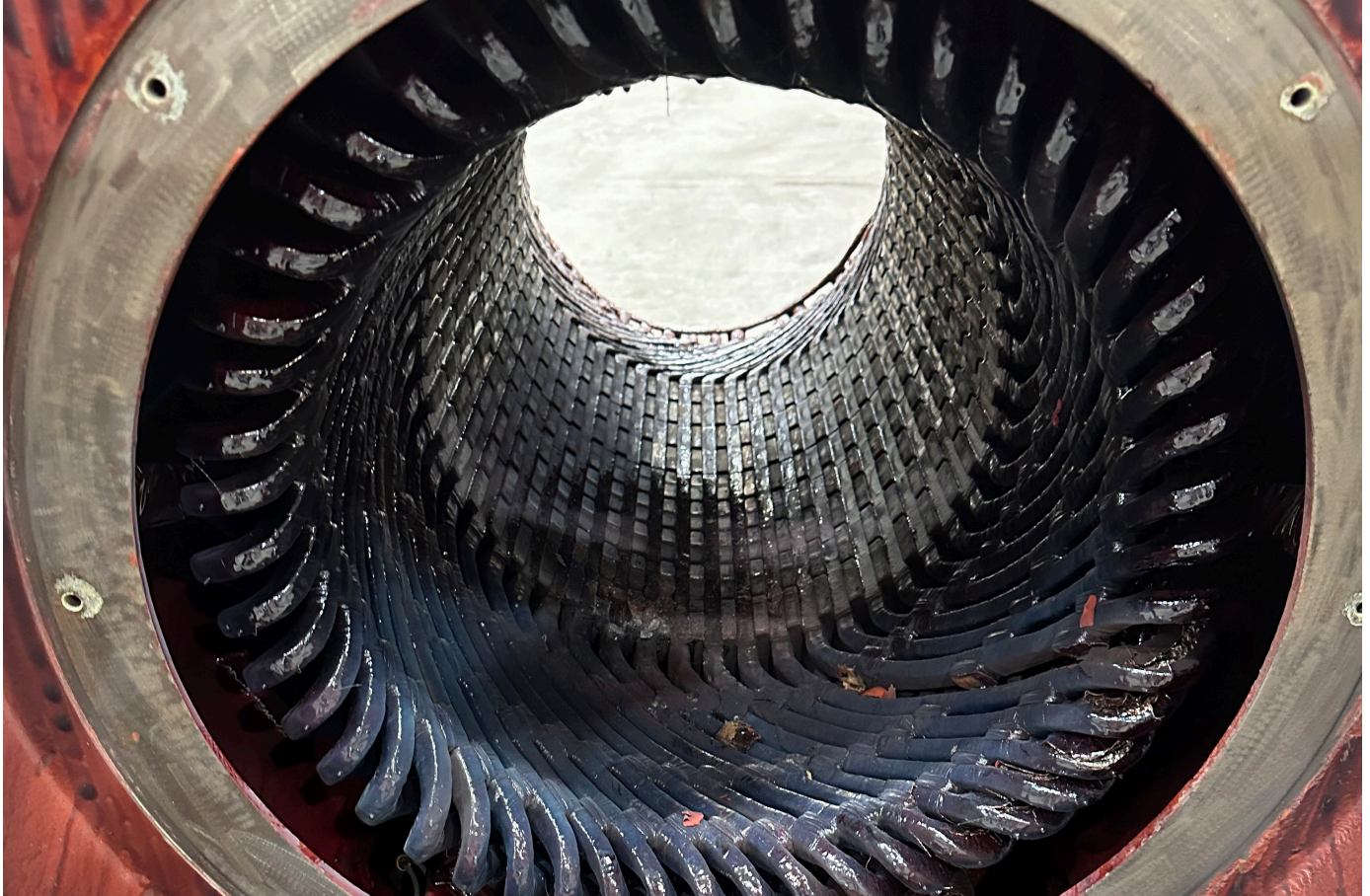
To ensure a seamless stator rewind, the bars were trial-fitted into a custom-built checking gauge that replicated the client's stator, located over 4,000 miles away. Quartzcoil also provided a complete rewind kit, including wedges, packers, separators, and more, all produced in-house in the fibreglass department.

Upon delivery, the Quartzelec Abu Dhabi site team delivered a full turnkey solution, including both the stator bars and the complete repair. The result was a major success, restoring the generator to full operation.



## Key Benefits

- Reduced Downtime: On-site stator rewind minimised machine downtime, ensuring the generator was quickly restored to service
- Global Working: Reverse Engineering of any OEM's machines
- High-Quality Components: The use of advanced Resin Rich Roebel bars and custom-engineered components ensured enhanced performance and reliability of the stator
- Full turnkey solution, including both the stator bars and complete repair.



Custom  
Engineered

Full  
Turnkey  
Solution

Reduced  
Downtime