framatome

Mobile Testing for Quality Assurance

For Bearings, Gears and other Large Components in Offshore Wind Turbines and other Installations

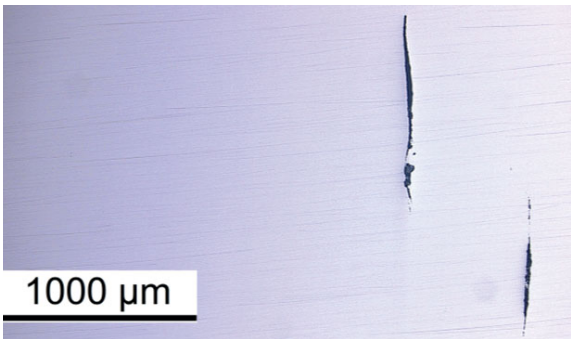
Framatome – experienced in construction and service of energy systems – offers unique mobile inspection for quality assurance of key components.

Challenge

Maintenance and service of offshore wind turbines are expensive and require plenty of resources. Therefore, defects due to poor steel quality or inadequate manufacturing practices that could cause failures in service must be ruled out before assembly.

Even more serious are quality issues that necessitate unplanned servicing or repairs, especially for main components such as bearings. The need to remove large parts in order to gain access for inspection of functional surfaces leads to downtimes and costs.

Quality and reliability of key components are the basis for achieving the expected lifetime and economic operation of wind turbines and other high performance systems.



Example for detrimental non-metallic inclusions in a bearing steel

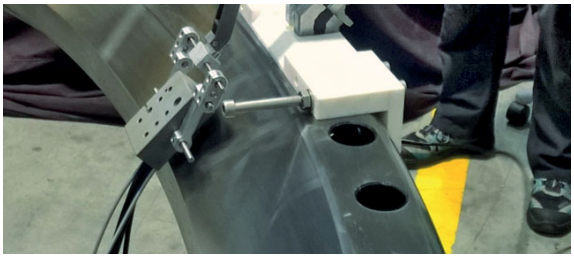
Solution

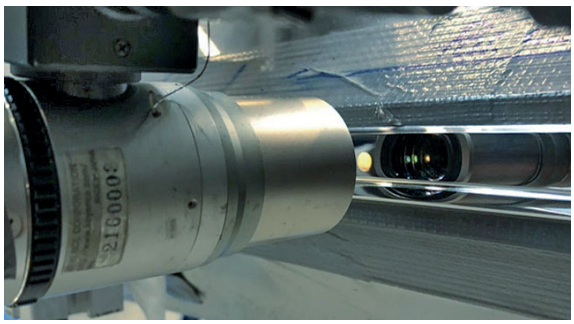
Framatome's Mobile Quality Assurance Approach makes testing during or directly after manufacturing possible by way of workshop acceptance inspections, examination of spare parts or also for inservice inspections.

To ensure quality of main bearing components, mobile investigation methods have been qualified and realized for determining important conditions such as cleanliness, hardness and the absence of manufacturing defects.

The Framatome Quality Assurance Approach consists of customized:

- Phased-array ultrasonic testing of items such as bearing raceways to check for manufacturing defects and material impurities
- Hardness mapping of items such as raceways to ensure homogeneous surface conditions
- Assessment of cleanliness in accordance with international standards such as ISO 4967 and DIN50602.





Examples for onsite inspection of a main bearing outer ring

Customer benefits

- Assured quality of main components before assembly and commissioning
- Condition monitoring from manufacture to operation
- Less unplanned serving and repairs, reduced costs
- Higher reliability and less downtime of the entire installation
- Avoidance of reoccurrence of failures due to checking of spare parts

Your performance
is **our** everyday **commitment**

Contact: wind@framatome.com
www.framatome.com