Bladestar Renewables

CASE STUDY
BROCHURE

Established in
2019

Blade
Repair Specialists

We provide various services for inspection, repair and other service works on rotor blades and towers.

Earlsburn Internal

WEB REINFORCEMENT

Bladestar Renewables Ltd were tasked with completing a Category 3 internal repair to a LM blade. The identified defect was a result of operational fatigue.

The damage was located 8 metres from the root on the suction side. In section 2 of the blade, Web B had suffered debonding from the internal shell. The total distance of the debonding was around 4 metres.

The repair took 2 days to complete start to finish including setup of habitat. Project was under budget resulting in a very happy customer.

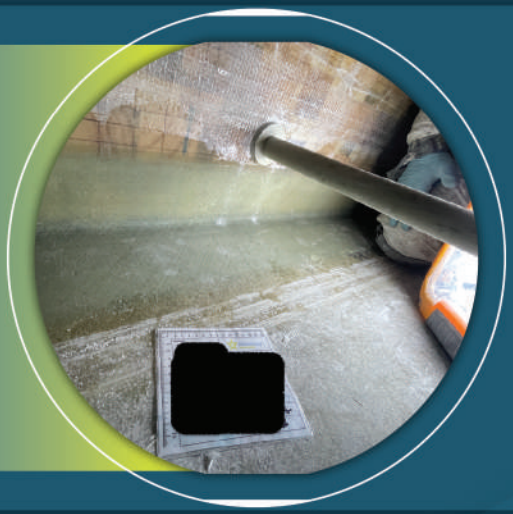
The repair report was generated and uploaded to our online client server for download within 72 hours of completion.

Before any works could take place, a habitat was created inside the blade. This would help contain any contamination within the other parts of the blade. It also improves conditions in preparation for laminations.

In order to correctly identify the depth of the debonding/glue cracks in the web foot we had to begin by removing top layers of fiberglass. Once the fiberglass layers were removed, the glue that is used during production to bond the web to the internal shell was exposed. It was clear that the glue was cracked in its entirety. There were also areas of uncured bonding paste found in some areas. This led us to our root cause analysis.

Upon recording that the glue was substantially damaged, it was decided that we would remove all glue from the web foot. This left the Web and Inner shell free from any glue and sitting at a 90 degree angle.

The area was cleaned and prepared for the lamination process. Before laminating, bonding paste was used to reduce the 90 degree angle between the web and webfoot. Reinforcement lamination was completed using Bladestar recommended work instruction for the task.



Upon completion of the laminate, the habitat was removed and the full blade cleaned in order for the turbine to be placed back into service.

Bladestar Renewables

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Our current valued customers

Vector Renewables – Asset Empowerment

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West Burton Energy

SDIC Red Rock Power Limited

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