



Established in
2019

CASE STUDY

B R O C H U R E

Blade Repair Specialists

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

Earlsburn External



- Bladestar Renewables Ltd were tasked with a Category 4 repair to a LM 40.0 blade. The damage was the result of a previous repair failing.

- The damage was 12 metres from the root. The crack was a 0.4 metre chordways crack around 80% chord.

- This repair took 40 hours to complete and was completed via rope access.

- Repair report was generated and uploaded to our online server for download within 72 hours of demobilisation.



INVESTIGATION

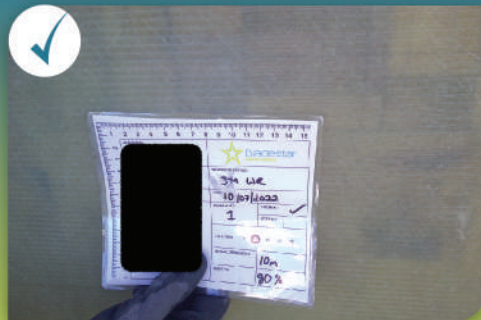


We started the investigation by removing all surrounding paint in the defective area to see if any other defects were visible. This would help us in identifying a root cause analysis.



Upon further investigation it was deemed that the old laminate repair had not been sufficiently overlapped. There was also only one layer of fiberglass used on the old repair. This was not sufficient and 4 layers should have been used to ensure structural integrity.

We removed the defective fiberglass to expose the core. A core replacement had been completed however poor workmanship of the replacement had left the area too fragile to withstand the stress load requirements. The glue joints in the core replacement were also out of spec and deemed excessive.



Once the core was removed it was found that the wrong fiberglass had been used under the core resulting in debonding from the inner shell. We removed the defective core and replaced with fresh core following our work instruction. This was then overlapped with the correct amount of fiberglass for the area.

We then structurally profiled the area in preparation for filling and painting. When the repair was finished we had successfully completed a 1.3m core replacement with internal shell bonding and a 1.5m by 0.6m lamination with reinforcement.



Testimonial

Bladestar showed an excellent technical knowledge and professionalism executing works on site.

The communication is also a strong point in all stages. They helped us to solve critical problems with a high quality ensuring our collaboration in future projects.

- Vector Renewables





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Our current valued customers

