Manual grinding of wind turbine blades

After flashing trimming, the leading and trailing edges have a small ridge that must be ground off to achieve the desired airfoil profile. The solution: capture the blade geometry as-built and process the ...

This precision grinding method allows blade damage to be removed with the utmost accuracy. This leaves the surface ready for a technician to reapply the balsa wood and fiberglass layers in order to ...

To solve this problem, we propose a workflow for autonomous surface grinding of wind turbine blades. It includes damage analysis based on scans of the blade, subsequent trajectory ...

Although robots have been used by the wind energy industry to paint and polish blades, automation has not been widely adopted. In the new application, a six-axis machine safely trims, ...

ne components, quality and accuracy are paramount. Even the smallest inaccuracies at the root end of a turbine blade, tower flange, or transition piece can impact the structural integrity and performance of ...

The simulation and experiments demonstrate the effectiveness of the proposed trajectory planning method for mobile robotic grinding wind turbine blade, the rationality of the optimization ...

Research at the laboratory demonstrates the ability of a robot to trim, grind, and sand blades. Those necessary steps occur after the two sides of the blade are made using a mold and then bonded ...

The majority of this work focuses on the toolpath generation. The algorithms were tested on a 5-m blade section, and the results were analyzed in terms of operation speed and accuracy. ...

The paper mainly analyzed and studied the grinding equipment for the root closing mold of 68.6 wind turbine blades. The grinding mechanism was designed and test.

Research has shown that robots can trim, grind, and sand blades, essential steps after the blade halves are molded and bonded together. Researchers at the National Renewable Energy ...

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