

# Pre-embedded bolts for wind blade power generation

Which wind turbine has a fractured bolt during service?

In this study, the fractured bolt (No. 51) during service was applied in No. CMD04 wind turbine of ChangMa wind farm in Gansu province of People's Republic of China. This wind turbine is equipped with 3 131C120602 type blades (with length 58.00 m) supplied by AEOLON.

Does a high-strength wind turbine blade root Bolt have a decarburization layer?

The failure analysis of a high-strength wind turbine blade root bolt was conducted in this study. It can be revealed from the hardness, chemical characterization and metallographic test that there exists a significant decarburization layer beneath the bolt threaded surface.

What causes a fractured high strength bolt in a mw class wind turbine?

Failure analysis of a fractured high strength bolt used in a MW Class wind turbine blade connection system was conducted to clarify the failure cause and to determine the prevention method. Applying detailed mechanical characteristics and metallurgical investigations, the bolts failure cause can be attributed to bending fatigue.

How do you connect a rotor blade to a wind turbine?

For wind turbine blades, generally two main root connection types exist to connect the rotor blade to the hub of the turbine: the T-bolt connection or bushing technology.

What rotor blades can be used for a circular wind turbine?

As a result, the solution is used extensively for different sizes of circular wind turbine roots as well as in several projects where non-circular geometries are required. Examples are partial-span pitch rotor blades and the rotor arms of vertical axis wind turbines. Depending on the size, the certification covers the first 500-1,500mm of length.

Is segmented blade technology the future of wind turbine technology?

Segmented blade technology is maturing and may play a vital role in wind turbine advancement. Joint technology will inevitably vary, and the effect of joint parameters such as mass, inertia, stiffness, and cost on overall economics should be considered.

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