



- 1 Air pockets in the leading edge glue.
- 2 Mobile test system.
- 3 Undulations (wrinkles) in the glass-fiber reinforced plastic.

## ROTOR BLADE INSPECTION BY INFRARED THERMOGRAPHY

Rotor blades are intensely loaded parts of wind turbines. Quality control and regular on-site testing of rotor blades is therefore essential for their safe and economic operation. Today, the testing is done visually or acoustically in a time-consuming and not very reliable way.

### Solution

Heat flow thermography enables a fast, reliable and non-destructive examination of rotor blades for typical defects such as air inclusions, delaminations and defective adhesive joints. An area of several square meters can be scanned within minutes.

### Principle

The surface under investigation is exposed to a homogenous heat pulse. The heat subsequently diffuses into the interior of the object. Many defects such as air inclusions

retard the heat flow and the surface shows hot spots which can easily be detected by means of thermography.

### Technical Implementation

The testing system consists of a rail system and a self-propelled testing trolley carrying an infrared radiator and a thermographic camera. When the trolley moves along the blade, its surface is gently heated by the radiator and subsequently imaged by the camera. The images obtained will be evaluated by a dedicated software which allows the recognition of common defects.

### Results

Infrared thermography opens the way to a faster and more reliable testing of rotor blades in quality control as well as on-site. For more detailed information please get in touch with our experts!

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