

## Product Certification in the Wind Energy Sector.

To ensure the success of your wind farm project, we provide a range of services to support you at every phase of the project life cycle – from site selection, design and manufacturing, right through to operation.

<b>Product Certification</b>	<b>Project Certification</b>	<b>Manufacturing Surveillance</b>
Health & Safety	Marine Warranty Survey	Periodic Inspections
Due Diligence	Laboratory Services	Expert Reports
Training / Education	Management System Certification	Grid Connection
Project Planning Services	Coating Inspection Services	CE Marking

### Product certification services for manufacturers in the wind energy sector

With a steadily growing number of manufacturers in the global market for wind energy, the certification of wind turbines and wind turbine components is both highly in demand and a technical state-of-the-art development around the world. Certification to harmonized standards and requirements boosts the export potential of products and therefore it is important that manufacturers, owners, banks and insurers apply for and insist on the various types of certification available. Our certification services for wind turbines and wind turbine components are based on the international standard IEC 61400 series, as well as providing compliance with national standards and guidelines, such as DIBt and GL.

Founded 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

#### Our experience - your benefit

Our global network of experts serves our clients by opening up new markets for their products due to our broad knowledge about specific international and national market-access regulations, laws and restrictions.

With more than 200 employees in the fields of civil and structural engineering and our high laboratory capacities, there are no delays for your product certifications and no queuing due to over-committed project pipelines.

### Type certification

The purpose of type certification is to confirm that the wind turbine type is designed, documented and manufactured in conformity with design assumptions, specific standards and other technical requirements. Demonstration that it is possible to install, operate and maintain the turbines in accordance with the design documentation is required. Type certification applies to a series of wind turbines of common design and manufacture; it contains procedures related to design, manufacture, conformity testing and the plans for transportation, erection, installation and maintenance.

It consists of the **mandatory modules**:

- Design basis evaluation
- Wind turbine design evaluation
- Type testing
- Manufacturing evaluation
- Final evaluation

And the **optional modules**:

- Foundation design evaluation
- Foundation manufacturing evaluation
- Type characteristic measurements



A type certificate covers a wind turbine, including the tower and the proposed type of connection between tower and foundation. It also covers the requirements governing the foundation, insofar as they arise from the wind turbine design, and may include one or more foundations. It documents conformity for all the mandatory modules and may additionally document conformity for optional modules.

### Component certification

Wind turbine component certification confirms that a major component of a specific type is designed, documented and manufactured in conformity with design assumptions, specific standards and other technical requirements.

The procedures for component certification should be in line with the type certification procedures. The specific content of a module depends on the actual component.

Component certification consists of the following modules:

- Design basis evaluation
- Design evaluation
- Type testing
- Manufacturing evaluation
- Final evaluation.

A component certificate covers a major wind turbine component such as a blade or gearbox.

Our Certification Body for products is accredited by the German Accreditation Body according to EN 45011 for the certification of wind turbines according to the IEC 61400-series (see annex of the accreditation certificate at [www.dakks.de](http://www.dakks.de)).



### Always a good sign.



This mark stands for all the information about products, services and systems that are tested, certified or inspected by TÜV Rheinland. Transparent, available anytime worldwide – powerful and unique. The TÜV Rheinland test mark.

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