

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-20910-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 10.02.2023

Date of issue: 10.02.2023

Holder of accreditation certificate:

Pavana GmbH
Otto-Hahn-Straße 12-16, 25813 Husum

With its locations:

Otto-Hahn-Straße 12-16, 25813 Husum
Peter-Henlein-Straße 2-4, 27472 Cuxhaven

The testing laboratory meets the minimal requirements of DIN EN ISO/IEC 17025:2018 and, if applicable, additional legal and normative requirements, including those in relevant sectoral schemes, in order to carry out the conformity assessment activities listed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories and confirm generally with the principles of DIN EN ISO 9001.

Test in the fields:

Determination of wind potential and energy yields of wind turbines; determination of the site quality; execution and evaluation of wind measurements by anemometer and LiDAR, including LiDAR verification and RSD plausibility testing; accomplishment of shadow flicker calculations of wind turbines; accomplishment of noise immission calculations of wind turbines; accomplishment of extreme wind speed estimations; determination of site quality following commissioning

Within the scope of accreditation marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing procedures within the flexible scope of accreditation.

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.

Abbreviations used: see last page

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This document is a translation. The definitive version is the original German annex to the accreditation certificate.

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1 Determination of wind potential and energy yields of wind turbines including testing of wind climatological input data; determination of the site quality

IEC 61400-12-1 Ed. 2.0 * 2017	Wind energy generation systems - Part 12-1: Power performance measurements of electricity producing wind turbines (<i>withdrawn standard</i>) (here: only Annex G, L)
IEC 61400-12-1 * 2022-09	Power performance measurements of electricity producing wind Turbines
IEC 61400-12-5 * 2022-08	Power performance – Assessment of obstacles and terrain
IEC 61400-50 * 2022-08	Wind measurement – Overview
IEC 61400-50-1 * 2022-11	Wind measurement – Application of meteorological mast, nacelle and spinner mounted instruments
IEC 61400-50-2 * 2022-08	Wind measurement – Application of ground-mounted remote sensing technology
FGW TR 6, Rev. 11 * 2020-09	Determination of wind potential and energy yields
VA7.2-2 2019-04	Accomplishing an energy yield assessment

2 Accomplishment and evaluation of wind measurements by anemometer and LiDAR, including LiDAR verification and RSD plausibility checks

IEC 61400-12-1 Ed. 2.0 * 2017	Wind energy generation systems - Part 12-1: Power performance measurements of electricity producing wind turbines (<i>withdrawn standard</i>) (here: only Annex G, L)
IEC 61400-12-1 * 2022-09	Power performance measurements of electricity producing wind turbines
IEC 61400-12-5 * 2022-08	Power performance – Assessment of obstacles and terrain
IEC 61400-50 * 2022-08	Wind measurement – Overview

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IEC 61400-50-1 * 2022-11	Wind measurement – Application of meteorological mast, nacelle and spinner mounted instruments
IEC 61400-50-2 * 2022-08	Wind measurement – Application of ground-mounted remote sensing technology
FGW TR 6, Rev. 11 * 2020-09	Determination of wind potential and energy efficiency yields
IEC 61400-12-1 Ed. 2.0 * 2017	Wind energy generation systems - Part 12-1: Power performance measurements of electricity producing wind turbines (here only Annex G, L)
FGW TG 6 Rev. 11 * 2020-09	Determination of wind potential and energy yields

3 Accomplishment of shadow flicker calculations of wind turbines

VA7.2-4 2019-04	Accomplishing a shadow flicker calculation
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4 Accomplishment of noise immission calculations of wind turbines

DIN ISO 9613-2* 1999-10	Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation
TA Lärm 1998	German Technical Guideline for Noise Reduction (<i>Technische Anleitung zum Schutz gegen Lärm</i>) 6th General Administrative Regulation on the Federal Immission Control Act (<i>Bundesimmissionsschutzgesetz</i>)
VA7.2-3 2021-01	Accomplishing a noise immission calculation

5 Accomplishment of extreme wind speed estimations

VA7.2-6 2020-10	Accomplishing an extreme wind speed estimation
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6 Determination of site quality following commissioning

FGW TG 10, Rev. 2* Determination of site quality following commissioning
2021-03

VA7.2-8 Determination of site quality following commissioning
2022-04

Abbreviations used

FGW	Federation of Wind and other Decentralised Energies
LiDAR	Light detection and ranging
RSD	Remote sensing device
TG	Technical guideline
VA	Procedural instruction of Pavana GmbH