

## Deutsche Akkreditierungsstelle GmbH

### Annex to the Accreditation Certificate D-PL-20107-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 20.07.2021

Date of issue: 20.07.2021

Holder of certificate:

**SoWiTec development GmbH**  
**Löherstraße 24, 72820 Sonnenbühl**

Tests in the fields:

**Performance, evaluation and analysis of wind measurements with remote sensing (SoDAR and LiDAR) and wind met mast / meteorological measuring systems; Determination of the wind potential and calculation of the expected mean annual energy yield of wind turbine sites; Determination of the site quality; Prediction of the sound immission of wind turbines; Calculation of the shadow impact of wind turbines; Performance, evaluation and analysis of global irradiance measurements for the determination of the solar irradiance potential; Determination of the irradiance potential and production estimate for PV plants**

**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 standards within the flexible scope of accreditation.**

*The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.*

*The certificate together with the annex reflects the status as indicated by the date of issue.*

*The current status of any given scope of accreditation may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

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.**

**Annex to the accreditation certificate D-PL-20107-01-00**

**1 Performance, evaluation and analysis of wind measurements for the determination of the wind potential with SoDAR, LiDAR and wind met mast /meteorological measuring systems**

IEC 61400 *	Wind turbines – Part 1: Design requirements
2019-02	
IEC 61400-12-1 *	Wind turbines – part 12-1: Power performance measurements of electricity producing wind turbines
2017-03	
FGW TG 6, Rev. 11 *	Determination of the Wind Potential and Energy Yields
2020-09	
HV_WRM_RS	Performance of remote sensing wind measurements
2021-05	
HV_WRM_MM	Performance of wind measurements with wind met mast / meteorological measuring systems
2021-05	
HV_WRA_RS	Evaluation and analysis of remote sensing wind measurements for the determination of the wind potential /remote power measurements
2021-05	
HV_WRA_MM	Evaluation and analysis of wind measurements with wind met mast for the determination of the wind potential / meteorological measuring systems
2021-05	

**2 Determination of the wind potential of wind turbine sites and calculation of the expected mean annual energy yield of wind turbines; Determination of the site quality**

IEC 61400-1 *	Wind turbines – Part 1: Design requirements
2019-02	
IEC 61400-12-1 *	Wind turbines – part 12-1: Power performance measurements of electricity producing wind turbines
2017-03	
FGW TG 5, Rev. 8 *	Determination and application of the reference yields
2020-03	
FGW TG 6, Rev. 11*	Determination of the Wind Potential and Energy Yields
2020-09	
HV_WRP	Determination of the wind potential of wind turbine sites
2021-05	

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HV_AEP_WIND 2021-05	Calculation of the expected mean annual energy yield of wind turbines
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**3 Prediction of the sound immission of wind turbines**

DIN ISO 9613-2* 1999-10	Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation
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TA Lärm 1998-08	Sechste allgemeine Verwaltungsvorschrift zum Bundes-Immissionsschutzgesetz: Technische Anleitung zum Schutz gegen Lärm
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HV_NIA 2021-05	Calculation of the sound immission of wind turbines
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**4 Calculation of the shadow impact of wind turbines**

HV_SFA 2021-05	Calculation of the shadow impact of wind turbines
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**5. Performance, evaluation and analysis of global irradiance measurements for the determination of the solar irradiance potential**

IEC 61724-1 * 2017-03	Photovoltaic system performance - Part 1: Monitoring
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VDI 3786 Bl. 1 * 2013-08	Environmental Meteorology – Meteorological Measurements – Principles
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VDI 3786 Bl. 5 * 2015-10	Environmental Meteorology – Meteorological Measurements – Irradiation
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WMO-No. 8 ed. 7 * 2008	Guide to Meteorological Instruments and Methods of Observation
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HV_SRM 2021-05	Performance of global irradiance measurements
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HV_SRA 2021-05	Evaluation and analysis of global irradiance measurements for the determination of the solar irradiance potential
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**6. Determination of the irradiance potential and production estimate for PV plants**

HV_AEP_PV 2021-05	Determination of the solar irradiance potential and production estimate for PV plants
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**Abbreviations used:**

DIN	German Institute for Standardization
FGW	Fördergesellschaft Windenergie e.V.
HV_XXX	In house method of SOWITEC development GmbH
IEC	International Electrotechnical Commission
LAI	Bund/Länder-Arbeitsgemeinschaft für Immissionsschutz
LiDAR	Light Detection And Ranging
SoDAR	Sound/Sonic Detecting And Ranging
TA	Technical Instruction
TG	Technical Guideline
VDI	Association of German Engineers
WMO	World Meteorological Organization