

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV
Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

LEISTRITZ Turbinentechnik GmbH
Lempstraße 24, 42859 Remscheid

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

technological tests and metallographical analyses at turbine components

The accreditation certificate shall only apply in connection with the notice of accreditation of 07.12.2018 with the accreditation number D-PL-19226-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 3 pages.

Registration number of the certificate: **D-PL-19226-01-00**

Berlin,
07.12.2018

Dipl.-Ing. (FH) Ralf Egner
Head of Division

Translation issued:
04.03.2019



Head of Division

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
<https://www.dakks.de/en/content/accredited-bodies-dakks>

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-19226-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 07.12.2018

Date of issue: 07.12.2018

Holder of certificate:

**LEISTRITZ Turbinentechnik GmbH
Lempstraße 24, 42859 Remscheid**

Tests in the fields:

technological tests and metallographical analyses at turbine components

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 methods within the flexible scope of accreditation.

Technological tests

DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method
ASTM E 10 2017	Standard Test Method for Brinell Hardness of Metallic Materials
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method
ASTM E 384 2017	Standard Test Method for Microindentation Hardness of Materials

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

Abbreviations used: see last page

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Annex to the accreditation certificate D-PL-19226-01-00

DIN EN ISO 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method (here: <i>Scale C</i>)
ASTM E 18 2017	Standard Test Methods for Rockwell Hardness of Metallic Materials (here: <i>Scale C</i>)
DIN EN ISO 6892-1 2017-02	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
DIN EN 2002-001 2007-08 + Amendment 1 2007-08	Aerospace series - Metallic materials - Test methods - Part 1: Tensile testing at ambient temperature
ASTM E 8/E 8Ma 2016	Standard Test Methods for Tension Testing of Metallic Materials
DIN EN ISO 6892-2 2018-09	Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature
DIN EN 2002-002 2007-08	Aerospace series - Metallic materials - Test methods - Part 2: Tensile testing at elevated temperature
ASTM E 21 2017	Standard Test Method for Elevated Temperature Tension Tests of Metallic Materials
DIN EN ISO 148-1 2017-05	Metallic materials - Charpy pendulum impact test - Part 1: Test method (here: <i>only at room temperature</i>)
DIN EN ISO 204 2009-10	Metallic materials - Uniaxial creep testing in tension - Method of test
DIN EN 2002-005 2008-09	Aerospace series - Test methods for metallic materials - Part 005: Uninterrupted creep and stress-rupture testing
ASTM E 139 2011	Standard Test Methods for Conducting Creep, Creep-Rupture, and Stress-Rupture Tests of Metallic Materials
DIN EN ISO 7438 2016-07	Metallic materials - Bend test

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Metallographical analyses

ASTM E 112 2013	Standard Test Methods for Determining Average Grain Size
DIN EN ISO 643 2013-05	Steels - Micrographic determination of the apparent grain size (Evaluation and comparison with standard image series tables)
DIN 54150 1977-08	Non-destructive testing - Impression methods for surface examination (Replica-technique) (<i>withdrawn standard</i>)
ASTM E 1447 2009	Standard Test Method for Determining of Hydrogen in Titanium and Titanium Alloys by Inert Gas Fusion Thermal Conductivity / Infrared Detection Method

abbreviations used:

ASTM	American Society for Testing and Materials
DIN	German Institute for Standardization
EN	European Standard
ISO	International Organization for Standardization

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AKTUELLE LISTE ALLER PRÜFVERFAHREN IM FLEXIBLEN
AKKREDITIERUNGSBEREICH

Norm	Title	Ausgabe Datum	Freigegeben am	Letzte Verifizierung
DIN EN ISO 6506-1	Metallische Werkstoffe - Härteprüfung nach Brinell	01.02.2015	09.04.2018	11/21
ASTM E 10	Standard Test Method for Brinell Hardness of Metallic Materials	01.07.2023	03.04.2024	04/24
DIN EN ISO 6507-1	Metallische Werkstoffe - Härteprüfung nach Vickers	01.01.2024	03.04.2024	04/24
ASTM E 384	Standard Test Method for Vickers Hardness of Metallic Materials	01.10.2022	13.01.2023	04/24
DIN EN ISO 6508-1	Metallische Werkstoffe - Härteprüfung nach Rockwell-Verfahren (Skalen C)	01.04.2024	15.08.2024	08/24
ASTM E 18	Standard Test Method for Rockwell Hardness of Metallic Materials (Scale C)	01.04.2024	15.08.2024	08/24
DIN EN ISO 6892-1	Metallische Werkstoffe - Zugversuch - Prüfverfahren bei Raumtemperatur (Methode B)	01.06.2020	01.06.2020	11/21
DIN EN 2002-1	Luft- und Raumfahrt - Metallische Werkstoffe - Zugversuch - Prüfverfahren bei Raumtemperatur	01.08.2007	05.07.2018	11/21
ASTM E 8/E 8Ma	Standard Test Method for Tension Testing of Metallic Materials	01.01.2024	18.11.2024	04/24
DIN EN ISO 6892-2	Metallische Werkstoffe - Zugversuch - Prüfverfahren bei erhöhter Temperatur (Methode B)	01.09.2018	01.06.2020	04/23
DIN EN 2002-2	Luft- und Raumfahrt - Metallische Werkstoffe - Zugversuch - Prüfverfahren bei Hochtemperatur	01.08.2007	05.10.2018	11/21

AKTUELLE LISTE ALLER PRÜFVERFAHREN IM FLEXIBLEN
AKKREDITIERUNGSBEREICH

Norm	Title	Ausgabe Datum	Freigegeben am	Letzte Verifizierung
ASTM E 21	Standard Test Method for Elevated Temperature Tension Testing of Metallic Materials	01.01.2020	01.01.2020	11/21
DIN EN ISO 148-1	Metallische Werkstoffe - Kerbschlagbiegeversuch nach Charpy (nur bei RT)	01.05.2017	20.07.2018	11/21
DIN EN ISO 204	Metallische Werkstoffe - Einachsiger Zeitstandversuch unter Zugbeanspruchung	01.10.2023	20.05.2024	05/24
DIN EN 2002-5	Luft- und Raumfahrt - Metallische Werkstoffe - Kriech und Zeitstandversuch unter konstanter Zugbeanspruchung	01.09.2008	16.07.2018	11/21
ASTM E139	Standard Test Methods for conducting Creep, Creep-Rupture, and Stress-Rupture Test of Metallic Materials	01.01.2011	16.07.2018	11/21
DIN EN ISO 7438	Metallische Werkstoffe - Biegeversuch	01.03.2021	10.09.2021	04/23
ASTM E 112	Standard Test Method for Determining Average Grain Size	01.04.2024	19.08.2024	08/24
DIN EN ISO 643	Stahl - Mikrophotographische Bestimmung der scheinbaren Korngröße (Auswertung und Vergleich mit genormter Bildreihentafel)	01.06.2020	01.06.2020	11/21
DIN 54150	Zerstörungsfreie Prüfung - Abdruckverfahren für die Oberflächenprüfung (Replica-Technik)	01.08.1977 zurückgezogen	11.09.2018	11/21
ASTM E 1447	Standard Test Method for Determining of Hydrogen in Titanium and Titanium Alloys	01.01.2022	17.11.2022	04/23