

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11140-18-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 26.03.2020

Date of issue: 28.07.2020

Holder of certificate:

**Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e. V.
Hansastraße 27 c, 80686 München**

with the

Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit LBF

at the locations

**Bartningstraße 47, 64289 Darmstadt
Schloßgartenstraße 6, 64289 Darmstadt**

Tests in the fields:

experimental stress analysis at samples and parts of machinery, vessels, devices, facilities, rail, street- and aircraft, ships, agriculture, cranes, bridges and power plants using commercial measuring sensors;

experimental durability strength analysis at mechanical parts, assemblies and components of machinery, vessels, devices, facilities, rail, street- and aircraft, ships, agriculture, cranes, bridges and power plants using testing equipment;

experimental determination of material- and fatigue characteristics of metallic, fiber composite- and ceramic material as well as increased and unreinforced plastic-materials and elastomers using static and cyclic experiments;

experimental determination of static strength parameters for increased and unreinforced plastics as well as fiber composites using train-, pressure- and tensile/shear tests;

sensitivity determination of measuring wheels for road vehicles

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

Abbreviations used: see last page

*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>*

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Within the given testing field marked with **, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the modification, development and refinement of testing methods. The listed testing methods are exemplary.

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.

The test procedures are marked with the following symbols of the sites where they are carried out:

B = Bartningstraße

S = Schloßgartenstraße

1 Determination of the performance strength of components and systems by flexural fatigue tests **

VB 102 23.09.2019	Durability strength analysis of parts, assemblies and components	B
VB 104 11.10.2019	Durability strength analysis at vehicle wheels, hubs and stores	B
VB 105 21.01.2019	Durability strength analysis of chassis assemblies at multiaxial axle simulator	B

2 Determination of the strength of samples and components by fatigue tests **

VB 101 17.06.2019	Wöhler- and random load test at samples	B
VB 107 29.07.2009	Determination of rapid and cyclic characteristic material values using strain-controlled experiments	B
VB 110 11.07.2019	Woehler- and Random load tests on reinforced and unreinforced plastics	B

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3 Determination of the hardness of samples and components by static hardness tests ***

DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method	B
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method	B
DIN EN ISO 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method	B

4 Determination of material characteristics for reinforced and unreinforced plastics at samples and components by tensile, compression and shear tests **

DIN 53399-2 1982-11	Testing of reinforced plastics; shear test on plane specimens	B
DIN EN ISO 527-1 2019-12	Plastics - Determination of tensile properties - Part 1: General principles	B
DIN EN ISO 14126 2000-12	Fibre-reinforced plastic composites - Determination of compressive properties in the in-plane direction	B
ASTM D 3846 2008	Standard Test Method for In-Plane Shear Strength of Reinforced Plastics	B
VB 115 09.06.2017	Determination mechanical characteristics for fiber composites for tensile load	B
VB 116 09.06.2017	Determination mechanical characteristics for fiber composites for pressure load	B
VB 117 09.06.2017	Determination mechanical characteristics for fiber composites for shear load	B
VB 123 11.10.2019	Determination mechanical characteristics of unreinforced and short fiber reinforced thermoplastics under tensile load	S
VB 124 11.10.2019	Determination mechanical characteristics of unreinforced and short fiber reinforced thermoplastics under shear load	S

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5 Other tests

VB 119 11.06.2014	Experimental strain- and stress analysis using DMS (strain gauge)	B
VB 122 07.01.2020	Sensitivity determination of multiaxial wheel force sensor	B

Abbreviations used:

ASTM	American Society for Testing and Materials
DIN	German Institute for Standardization
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
VB	Test method of the Fraunhofer-Institut für Betriebsfestigkeit und Systemzuverlässigkeit LBF

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