

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the testing laboratory

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

meets the requirements of DIN EN ISO/IEC 17025:2018 for the conformity assessment activities specified in the following partial accreditation certificates. This includes additional existing legal and normative requirements for the testing laboratory, including those in relevant sectoral schemes, provided that these are explicitly confirmed in the annexes to the partial accreditation certificates listed below.

D-PL-11082-01-01

D-PL-11082-01-02

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate consists of this cover sheet, the reverse side of the cover sheet and the following annex. It only applies in connection with the partial accreditation certificates listed above and the notices referred to there.

Registration number of the certificate: **D-PL-11082-01-00**

Berlin, 30.04.2025

Dr.-Ing. Ernst Ulrich
Head of Technical Unit

Translation issued:
30.04.2025



Dr.-Ing. Ernst Ulrich
Head of Technical Unit

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 can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (www.dakks.de).

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

Office Frankfurt am Main
Europa-Allee 52
60327 Frankfurt am Main

Office Braunschweig
Bundesallee 100
38116 Braunschweig

The Deutsche Akkreditierungsstelle GmbH (DAkKS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkKS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkKS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-11082-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 30.04.2025

Date of issue: 30.04.2025

Holder of accreditation certificate:

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed in the annexes to the partial accreditation certificates listed below.

D-PL-11082-01-01

D-PL-11082-01-02

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

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>.

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Partial Accreditation Certificate** that the testing laboratory

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the testing laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This partial accreditation certificate only applies in connection with the notice of 30.04.2025 with accreditation number D-PL-11082-01.

It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 22 pages.

Registration number of the partial accreditation certificate: **D-PL-11082-01-01**

It is a part of the accreditation certificate: D-PL-11082-01-00.



Berlin, 30.04.2025

Dr.-Ing. Ernst Ulrich
Head of Technical Unit

Translation issued:
30.04.2025

Dr.-Ing. Ernst Ulrich
Head of Technical Unit

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 can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (www.dakks.de).

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Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

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Deutsche Akkreditierungsstelle

Annex to the Partial Accreditation Certificate D-PL-11082-01-01 according to DIN EN ISO/IEC 17025:2018

Valid from: 30.04.2025

Date of issue: 30.04.2025

This annex is a part of the accreditation certificate D-PL-11082-01-00.

Holder of partial accreditation certificate:

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

with the location

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

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

Tests in the fields:

Chemical and physical-chemical analysis and engine tests of mineral oil and related products; selected properties of fuels (diesel fuels) and lubricants (engine oils, gear oils); properties and behaviour of elastomers on exposure to engine oils; Investigations of electrical properties of fresh and used engine, gear and insulation oils

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

Page 1 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the following usage of different versions of standard test methods granted here (flexibility acc. cat. A).

The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation. The list is publicly available on the website of the testing laboratory.

1. Engine test methods

Methods of test	Description	Process-Matrix-Number⁺
CEC L-54-96 2022-11	Fuel Economy Effects of Engine Lubricants (Mercedes-Benz M111 E20)	5.3.143
CEC L-99-08 2020-10	The evaluation of engine crankcase lubricants with respect to low temperature lubricant thickening and wear under severe operating Conditions (Mercedes-Benz OM646 DE22LA)	5.3.153
CEC L-101-09 2019-02	Evaluation of Performance of Heavy Duty Engine Oils (Mercedes-Benz OM 501 LA Euro V)	5.3.135
CEC L-104-16 2024-02	Engine Oil Performance Test to Measure the Effects of Biodiesel, using the DC OM646 DE22 LA Engine (Mercedes-Benz OM646 DE22LA)	5.3.251
CEC L-106-14 2023-10	Oil Dispersion Test at Medium Temperature for Passenger Car Direct Injection Diesel Engines (PSA DV6C)	
CEC L-107-19 2024-06	The evaluation of engine crankcase lubricants with respect to sludge behavior (Mercedes-Benz M 271 EVO)	5.3.289
CEC L-111-16 2024-04	Gasoline Engine Cleanliness Test (PSA EP6CDT)	5.3.252
CEC L-114-19 2022-10	The evaluation of engine crankcase lubricants with respect to turbocharger deposit formation under severe operating conditions (Toyota 1KD-FTV)	5.3.290

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 2 of 22

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Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺⁾
CEC F-05-93 2019-09	Intake Valve Cleanliness in the MB M102E Engine	5.3.129
CEC F-16-96 2021-07	Valve Sticking of Gasoline Fuels (VW Waterboxer)	5.3.130
CEC F-20-98 2023-10	Deposit Forming Tendency on Intake Valves (Mercedes M111)	5.3.131
CEC F-23-01 2018-07	Procedure for Indirect Injector Nozzle Coking Test (PSA XUD9A/L, 1.9 litre 4 cylinder indirect injection Diesel engine)	5.3.132
CEC F-98-08 2023-12	Direct Injection, Common Rail Diesel Engine Nozzle Coking Test (PSA DW 10)	5.3.133
CEC F-110-23 2023-01	Internal Diesel Injector Deposits (IDID) Test for Direct Injection, Common Rail Engines (PSA DW10C)	
CEC L-117-20 2022-03	The evaluation of engine oils in direct injection turbo diesel engines with respect to piston cleanliness (VW EA288, engine code CUNA)	
CEC L-118-21 2024-11	Evaluation of engine oils in a heavy duty application with respect to piston cleanliness	
JASO M 366 2019-03	Automobile Gasoline Engine Oils –Firing Fuel Economy Test Procedure	

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 3 of 22

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2. Diesel fuels

Methods of test	Description	Process-Matrix-Number⁺⁾
Determination of density		
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density, method 3	1.2.22
DIN EN ISO 12185 2024-06	Crude oil and petroleum products - Determination of density - Oscillating U-tube method	1.2.22
Measurement of viscosity at 40 °C		
DIN EN ISO 3104 2024-04	Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity	1.2.54
ISO 3105 1994-12	Glass capillary kinematic viscometers - Specifications and operating instructions	
ASTM D 445 2024	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)	1.2.54
ASTM D 446 2012 reapproval: 2017	Standard Specifications and Operating Instructions for Glass Capillary Kinematic Viscometers	1.2.54
Determination of flash point		
DIN EN ISO 2719 2021-06	Determination of flash point - Pensky-Martens closed cup method	1.2.28
ASTM D93 2020	Standard Test Methods for Flash Point by Pensky- Martens Closed Cup Tester	1.2.28
Determination of sulphur content		
DIN EN ISO 14596 2007-12	Petroleum products - Determination of sulfur content - Wavelength-dispersive X-ray fluorescence spectrometry	

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
ASTM D2622 2024a	Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry	

Determination of cloudpoint

DIN EN 23015 1994-05	Petroleum products - Determination of cloudpoint (<i>withdrawn standard</i>)	1.2.19
DIN EN ISO 3015 2019-09	Petroleum and related products from natural or synthetic sources - Determination of cloud point	1.2.19

Determination of pourpoint

DIN EN ISO 3016 2019-09	Petroleum and related products from natural or synthetic sources - Determination of pourpoint	1.2.79
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Determination of oxide ash

DIN EN ISO 6245 2003-01	Petroleum products - Determination of ash	1.2.74
ASTM D 482 2019	Standard Test Method for Ash from Petroleum Products	1.2.74

Water content

ASTM D6304 2020	Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration	1.2.106
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Determination of neutralisation number

ASTM D664 2024	Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration	1.2.70
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Corrosiveness to copper

DIN EN ISO 2160 1999-04	Petroleum products - Corrosiveness to copper - Copper strip test	1.2.60
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Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 5 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
ASTM D 130 2019	Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test	1.2.60

Determination of oxidation stability

DIN EN 15751 2014-06	Automotive fuels - Fatty acid methyl ester (FAME) fuel and blends with diesel fuel - Determination of oxidation stability by accelerated oxidation method	1.2.75
DIN EN 16091 2022-12	Liquid petroleum products - Middle distillates and fatty acid methyl ester (FAME) fuels and blends - Determination of oxidation stability by rapid small-scale oxidation method	

Determination of fatty acid methyl ester (FAME) content

ASTM D7111 2016 reapproval 2021	Standard Test Method for Determination of Trace Elements in Middle Distillate Fuels by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	
DIN EN 16476 2014-07	Liquid petroleum products - Determination of Sodium, Potassium, Calcium, Phosphorus, Copper and Zinc contents in diesel fuel - Method via Inductively Coupled Plasma Optical Emission Spectrometry (ICP OES)	

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 6 of 22

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3. Engine oils

Methods of test	Description	Process-Matrix-Number ⁺⁾
Kinematic viscosity (40 °C and 100 °C)		
DIN EN ISO 3104 2024-04	Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity	5.1.54
ISO 3105 1994-12	Glass capillary kinematic viscometers - Specifications and operating instructions	
ASTM D445 2024	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)	5.1.54
ASTM D 446 2012 reapproval: 2017	Standard Specifications and Operating Instructions for Glass Capillary Kinematic Viscometers	
DIN 51659-1 2017-02	Lubricants-test methods-Part 1: Determination of the kinematic viscosity of used lubricating oils by glass capillary viscometer	
DIN 51659-2 2017-02	Lubricants-test methods-Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	
ASTM D7042 2021a	Standard Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscosimeter (and the Calculation of Kinematic Viscosity)	5.1.54
Apparent viscosity		
DIN 51377 2003-10	Testing of lubricants – Determination of the apparent viscosity of motor oils at low temperature from -5 °C to -35 °C – Using the cold-cranking simulator (<i>withdrawn standard</i>)	5.1.159
ASTM D 5293 2020	Standard Test Method for Apparent Viscosity of Engine and Base Stocks Oils Between -10 and -35°C Using Cold-Cranking Simulator	5.1.120

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Date of issue: 30.04.2025

Page 7 of 22

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Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺⁾
Shear stability		
CEC L-36-90 2019-09	High Shear High Temperature Viscosity Measurement	5.1.142
ASTM D 4683 2020	Standard Test Method for Measuring Viscosity of New and Used Engine Oils at High Shear Rate and High Temperature by Tapered Bearing Simulator Viscometer at 150 °C	5.1.288
CEC L-14-93 2022-01	Evaluation of the Mechanical Shear Stability of Lubricating Oils Containing Polymers	5.1.128
Viscosity index		
DIN ISO 2909 2004-08	Petroleum products - Calculation of viscosity index from kinematic viscosity	5.1.171
DIN ISO 2909 2005-01 Corrigenda	Petroleum products - Calculation of viscosity index from kinematic viscosity	5.1.171
ASTM D2270 2024	Standard Practice for Calculating Viscosity Index from Kinematic Viscosity at 40 °C and 100 °C	5.1.171
Evaporation loss		
CEC L-40-93 2023-12	Evaporation loss of Lubricating Oils using the Noack Evaporative Tester	5.1.141
Determination of pourpoint		
DIN EN ISO 3016 2019-09	Petroleum and related products from natural or synthetic sources - Determination of pourpoint	5.1.79
ASTM D97 2017b Reapproval: 2022	Standard Test Method for Pour Point of Petroleum Products	5.1.79

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 8 of 22

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Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
Flash point		
DIN EN ISO 2592 2018-01	Petroleum and related products - Determination of flash and fire points - Cleveland open cup method	5.1.28
ASTM D92 2024	Test Method for Flash and Fire Points by Cleveland Open Cup Tester	5.1.28
DIN EN ISO 2719 2021-06	Determination of flash point - Pensky-Martens closed cup method	
ASTM D93 2020	Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester	
Total base number		
DIN ISO 3771 1985-04	Petroleum products - Total base number - Perchloric acid potentiometric titration method (<i>withdrawn standard</i>)	5.1.70
ISO 3771 2011-09	Petroleum Products - Determination of base number - Perchloric acid potentiometric titration method	5.1.70
ASTM D2896 2021	Standard Test Method for Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration	5.1.70
DIN 51639-1 2014-11	Testing of lubricants - Test methods - Part 1: Determination of total base number	5.1.269
Determination of density		
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density, method 3	5.1.22
DIN EN ISO 12185 2024-06	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	5.1.22
Additive elements		
DIN 51431-2 2004-06	Testing of lubricants - Determination of the magnesium content - Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS) (<i>withdrawn standard</i>)	5.1.161

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Date of issue: 30.04.2025

Page 9 of 22

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Methods of test	Description	Process-Matrix-Number⁺
DIN 51391-3 2004-12	Testing of lubricants – Determination of the content of additive elements – Part 3: Direct determination of Ca, Mg, Zn and Ba by optical emission spectral analysis with inductively coupled plasma (ICP OES) <i>(withdrawn standard)</i>	5.1.161
Determination of phosphorus content		
DIN 51363-2 2003-02	Testing of mineral oils - Determination of phosphorus content of lubricating oils and additives Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS)	5.1.156
DIN 51363-3 2008-08	Testing of mineral oils - Determination of phosphorus content of lubricating oils and additives Part 3: Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	5.1.156
Determination of chlorine and bromine content		
DIN ISO 15597 2006-01	Petroleum and related products - Determination of chlorine and bromine content - Wavelength-dispersive X-ray fluorescence spectrometry	
Infrared spectrometric analysis		
DIN 51451 2024-03	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	5.1.166
Sulphated ash		
DIN 51575 2016-06	Testing of mineral oils - Determination of sulphated ash	5.1.93
ISO 3987 2024-09	Petroleum products - Determination of sulfated ash in lubricating oils and additives	5.1.93
ASTM D874 2023	Standard Test for Sulfated Ash from Lubricating Oils and Additives	5.1.93

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺⁾
Foaming Characteristics		
ASTM D892 2023	Standard Test Method for Foaming Characteristics of Lubricating Oils	5.1.124
ASTM D4684 2020a	Standard Test Method for Determination of Yield Stress and Apparent Viscosity of Engine Oils at Low Temperature	5.1.120
Water content		
ASTM D6304 2020	Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration	5.1.106
DIN 51380 2019-04	Testing of lubricants - Test for fuel diluent in used automotive engine oils - Gas chromatographic method (<i>withdrawn standard</i>)	5.1.160
Total dirt		
DIN 51365 1988-03	Testing of lubricants - Determination of total dirt in used engine oils - Separation by centrifuging (<i>withdrawn standard</i>)	
DIN 51399-1 2017-02	Testing of lubricants - Determination of elements content in additives, wear and other contaminations - Part 1: Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	
DIN 51396-2 2008-11	Testing of lubricants - Determination of wear elements - Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS)	5.1.161
ASTM D6082 2023	Standard Test Method for High Temperature Foaming Characteristics of Lubricating Oils	5.1.179
ASTM D4739 2023	Standard Test Method for Base Number Determination by Potentiometric Hydrochloric Acid Titration	5.1.70

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Page 11 of 22

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Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
Sulphur content		
DIN EN ISO 14596 2007-12	Petroleum products - Determination of sulfur content - Wavelength-dispersive X-ray fluorescence spectrometry	
ASTM D2622 2024a	Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry	5.1.89
Carbon black content		
CEC L-82-97 2024-10	Spectrophotometric Detection of Soot in Used Engine Oil Samples	5.1.146
DIN 51452 1994-01	Testing of lubricants; determination of the soot content in used Diesel engine oils - infrared spectrometry	
Kinematic viscosity		
CEC L-83-97 2023-06	Procedure for Measuring the Kinematic Viscosity at 100 °C of used Oil Samples	5.1.147
Additive elements		
ASTM D 5185 2018	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	5.1.237
ASTM D6443 2024	Test Method for Determination of Calcium, Chlorine, Copper, Magnesium, Phosphorus, Sulfur, and Zinc in Unused Lubricating Oils and Additives by Wavelength Dispersive X-ray Fluorescence Spectrometry (Mathematical Correction Procedure)	5.1.237
DIN 51443-2 2012-01	Determination of the boron content - Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	
DIN 51453 2024-08	Testing of lubricants - Determination of oxidation and nitration of used engine oils - Infrared spectrometry method	

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 12 of 22

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Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺⁾
DIN 51535 2013-10	Testing of petroleum products – Determination of deposition forming tendency in exhaust turbochargers and intercoolers of supercharged diesel engines	
ISO 4406 2021-01	Hydraulic fluid power - Fluids - Method for coding the level of contamination by solid particles	
CEC L-105-12 2021-11	Low Temperature Pumpability	5.1.231
ASTM D6594 2020e1	Standard Test Method for Evaluation of Corrosiveness of Diesel Engine Oil at 135°C	5.1.106
CEC L-109-14 2023-01	Oxidation Test for Engine Oils operating in the Presence of Biodiesel Fuel	
DIN 51454 2022-11	Testing of lubricants - Determination of low boiling components in used engine oils - Gas chromatographic method	
ASTM D 7097 2019	Standard Test Method for Determination of Moderately High Temperature Piston Deposits by Thermo-Oxidation Engine Oil Simulation Test - TEOST MHT	
CEC L-85-99 2019-05	Hot Surface Oxidation	5.1.149
electrical properties		
ASTM D7896 2019	Standard Test Method for Thermal Conductivity, Thermal Diffusivity, and Volumetric Heat Capacity of Engine Coolants and Related Fluids by Transient Hot Wire Liquid Thermal Conductivity Method	
DIN 51111 2024-02	Electrical properties of fresh and used oils from electric drives in vehicles - Measurement of the specific electrical conductivity, the relative permittivity (ϵ_r) and the dielectric dissipation factor ($\tan \delta$)	

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 13 of 22

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

4. Gear oils

Methods of test	Description	Process-Matrix-Number⁺⁾
Kinematic viscosity (40 °C and 100 °C)		
DIN EN ISO 3104 2024-04	Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity	
ISO 3105 1994-12	Glass capillary kinematic viscometers - Specifications and operating instructions	
ASTM D445 2024	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)	5.2.54
ASTM D 446 2012 reapproval: 2017	Standard Specifications and Operating Instructions for Glass Capillary Kinematic Viscometers	
DIN 51659-1 2017-02	Lubricants-test methods-Part 1: Determination of the kinematic viscosity of used lubricating oils by glass capillary viscometer	
DIN 51659-2 2017-02	Lubricants-test methods-Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	
ASTM D7042 2021a	Standard Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscosimeter (and the Calculation of Kinematic Viscosity)	5.2.54
Viscosity index		
DIN ISO 2909 2004-08	Petroleum products – Calculation of viscosity index from kinematic viscosity	5.2.171
DIN ISO 2909 2005-01 Corrigenda	Petroleum products – Calculation of viscosity index from kinematic viscosity	5.2.171
ASTM D2270 2024	Standard Practice for Calculating Viscosity Index from Kinematic Viscosity at 40 °C and 100 °C	5.2.171

Valid from: 30.04.2025

Date of issue: 30.04.2025

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
Determination of pour point		
DIN EN ISO 3016 2019-09	Petroleum and related products from natural or synthetic sources - Determination of pour point	5.2.79
ASTM D97 2017b Reapproval: 2022	Standard Test Method for Pour Point of Petroleum Products	5.2.79
Flash point		
DIN EN ISO 2592 2018-01	Petroleum and related products - Determination of flash and fire points - Cleveland open cup method	5.2.28
ASTM D92 2024	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester	5.2.28
DIN EN ISO 2719 2021-06	Determination of flash point - Pensky-Martens closed cup method	
ASTM D93 2020	Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester	
Density		
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density, method 3	5.2.22
DIN EN ISO 12185 2024-06	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	5.2.22
Foaming Characteristics		
ASTM D892 2023	Standard Test Method for Foaming Characteristics of Lubricating Oils	5.2.124
Sulphur content		
DIN EN ISO 14596 2007-12	Petroleum products - Determination of sulfur content - Wavelength-dispersive X-ray fluorescence spectrometry	5.2.89

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 15 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺
ASTM D2622 2024a	Standard Test method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry	5.2.89

Determination of chlorine content

DIN ISO 15597 2006-01	Petroleum and related products - Determination of chlorine and bromine content - Wavelength-dispersive X-ray fluorescence spectrometry
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Sulphated ash

DIN 51575 2016-06	Testing of mineral oils - Determination of sulphated ash	5.2.93
ISO 3987 2024-09	Petroleum products - Determination of sulfated ash in lubricating oils and additives	5.2.93

Additive elements

DIN 51431-2 2004-06	Testing of lubricants - Determination of the magnesium content - Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS) <i>(withdrawn standard)</i>	5.2.161
DIN 51391-3 2004-12	Testing of lubricants - Determination of the content of additive elements - Part 3: Direct determination of Ca, Mg, Zn and Ba by optical emission spectral analysis with inductively coupled plasma (ICP OES) <i>(withdrawn standard)</i>	5.2.161

Determination of water content

ASTM D6304 2020	Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration	5.2.106
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Corrosion protection

DIN ISO 7120 2000-05 Corrigendum 1 2007-06	Petroleum products and lubricants - Petroleum oils and other liquids - Determination of rust-preventing characteristics in the presence of water	5.2.174
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Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 16 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number^{*)}
DIN EN ISO 2160 1999-04	Petroleum products - Corrosiveness to copper - Copper strip test	5.2.60
ASTM D 130 2019	Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test	
Base number		
DIN ISO 3771 1985-04	Petroleum products - Total base number - Perchloric acid potentiometric titration method (<i>withdrawn standard</i>)	5.2.70
ISO 3771 2011-09	Petroleum Products - Determination of base number - Perchloric acid potentiometric titration method	5.2.70
ASTM D2896 2021	Standard Test Method for Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration	5.2.70
ASTM D4739 2023	Standard Test Method for Base Number Determination by Potentiometric Hydrochloric Acid Titration	
Phosphorus content		
DIN 51363-2 2003-02	Testing of mineral oils - Determination of phosphorus content of lubricating oils and additives Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS)	5.2.156
DIN 51363-3 2008-08	Testing of mineral oils - Determination of phosphorus content of lubricating oils and additives Part 3: Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	5.2.156
Boron content		
DIN 51443-2 2012-01	Testing of lubricants - Determination of the boron content - Part 2: Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	5.2.165
Oxidation stability		
CEC L-48-00 2024-08	Oxidation Stability of lubricating oils used in automotive transmissions by artificial ageing	5.2.221

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 17 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺⁾
Determination of scuffing load-carrying capacity in the FZG		
ASTM D 5182 2019	Standard Test method for Evaluating the Scuffing Load Capacity of Oils (FZG Visual Method)	5.2.178
CEC L-07-95 2014-09	Load Carrying Capacity Test for Transmission Lubricants	5.2.128
DIN ISO 14635-1 2006-05 Corrigendum 1 2007-03	Gears - FZG test procedures - Part 1: FZG test method A/8,3/90 for relative scuffing load-carrying capacity of oils	5.2.155
Wear elements		
DIN 51396-2 2008-11	Testing of lubricants - Determination of wear elements - Part 2: Analysis by wavelength dispersive X-ray spectrometry (XRS) <i>(withdrawn standard)</i>	5.2.161
DIN 51399-1 2017-02	Testing of lubricants - Determination of elements content in additives, wear and other contaminations - Part 1: Direct determination by optical emission spectral analysis with inductively coupled plasma (ICP OES)	
ASTM D664 2024	Standard Test method for Acid Number of Petroleum Products by Potentiometric Titration	5.2.70
Determination of scuffing load-carrying capacity		
CEC L-84-02 2024-09	FZG Scuffing Load Carrying Capacity Test for High EP Oils	
DIN ISO 14635-2 2010-01	Gears - FZG test procedures - Part 2: FZG step load test A10/16, 6R/120 for relative scuffing load-carrying capacity of high EP oils (ISO 14635-2:2004)	
CEC L-45-99 2023-11	Viscosity Shear Stability of Transmission Lubricants	

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 18 of 22

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Methods of test	Description	Process-Matrix-Number⁺
ASTM D 5185 2018	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	
DIN 51453 2024-08	Testing of lubricants - Determination of oxidation and nitration of used engine oils - Infrared spectrometry method	
CEC L-108-19 2022-06	FZG Pitting Load Carrying Capacity for Gear Oils	5.2.286

electrical properties

ASTM D7896 2019	Standard Test Method for Thermal Conductivity, Thermal Diffusivity, and Volumetric Heat Capacity of Engine Coolants and Related Fluids by Transient Hot Wire Liquid Thermal Conductivity Method
DIN 51111 2024-02	Electrical properties of fresh and used oils from electric drives in vehicles - Measurement of the specific electrical conductivity, the relative permittivity (ϵ_r) and the dielectric dissipation factor ($\tan \delta$)

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 19 of 22

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

5. Insulating Oils

Methodes of test	description	Process-Matrix- Number ⁺)
electrical properties		
ASTM D7896 2019	Standard Test Method for Thermal Conductivity, Thermal Diffusivity, and Volumetric Heat Capacity of Engine Coolants and Related Fluids by Transient Hot Wire Liquid Thermal Conductivity Method	
DIN 51111 2024-02	Electrical properties of fresh and used oils from electric drives in vehicles - Measurement of the specific electrical conductivity, the relative permittivity (ϵ_r) and the dielectric dissipation factor ($\tan \delta$)	

6. Properties and behaviour of elastomers on exposure to engine oils

CEC L-112-16 2022-01	The Evaluation of Oil - Elastomer Compatibility
ISO 2781 2018-06	Rubber, vulcanized or thermoplastic - Determination of Density
DIN 53504 2017-03	Testing of rubber - Determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test
DIN ISO 1817 2016-11	Rubber, vulcanised or thermoplastic - Determination of the effect of liquids
DIN ISO 7619-1 2012-02	Rubber, vulcanised or thermoplastic - Determination of indentation hardness - Part 1: Durometer method (Shore hardness) <i>(withdrawn standard)</i>
DIN ISO 48-4 2021-02	Rubber, vulcanized or thermoplastic - Determination of hardness - Part 4: Indentation hardness by durometer method (Shore hardness)
ISO 37 2024-05	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
ASTM D7216 2023	Standard Test Method for Determining Automotive Engine Oil Compatibility with typical Seal Elastomers

Annex to the Partial Accreditation Certificate D-PL-11082-01-01

Abbreviations used:

ASTM	American Society for Testing and Materials
CEC	Coordinating European Council
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardization)
EN	European standard
FAME	Fatty acid methyl ester
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
JASO	Japanese Automobile Standards Organization
Process-Matrix- Number ⁺	Property number of the mineral oil method matrix (FO-Antrag GB_Mineralöl.xlsx, Vers. 1.2, 11th of April 2024)

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 22 of 22

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

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Partial Accreditation Certificate** that the testing laboratory

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the testing laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This partial accreditation certificate only applies in connection with the notice of 30.04.2025 with accreditation number D-PL-11082-01.

It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 12 pages.

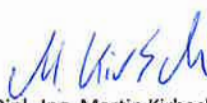
Registration number of the partial accreditation certificate: **D-PL-11082-01-02**

It is a part of the accreditation certificate: D-PL-11082-01-00.

Berlin, 30.04.2025

Dipl.-Ing. Martin Kirbach
Head of Technical Unit

Translation issued:
30.04.2025


Dipl.-Ing. Martin Kirbach
Head of Technical Unit

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 can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (www.dakks.de).

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See notes overleaf

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

Office Frankfurt am Main
Europa-Allee 52
60327 Frankfurt am Main

Office Braunschweig
Bundesallee 100
38116 Braunschweig

The Deutsche Akkreditierungsstelle GmbH (DAkKS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkKS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkKS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle

Annex to the Partial Accreditation Certificate D-PL-11082-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: 30.04.2025

Date of issue: 30.04.2025

This annex is a part of the accreditation certificate D-PL-11082-01-00.

Holder of partial accreditation certificate:

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

with the locations

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 11, 76829 Landau

APL Automobil-Prüftechnik Landau GmbH
Am Hölzel 17, 76829 Landau

APL Automobil-Prüftechnik Landau GmbH
Fichtenstraße 36, 76829 Landau

APL Automobil-Prüftechnik Landau GmbH
In der Viehweide 15, 76879 Bornheim

APL Automobil-Prüftechnik Landau GmbH
Robert-Bosch-Straße 12, 74321 Bietigheim-Bissingen

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>.

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

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

Tests in the fields:

**Function and service life testing of engines, connecting rods, power trains and attached parts;
Emission of gaseous and particulate pollutants from compression-ignition engines and gaseous pollutants from positive-ignition engines fuelled with liquefied petroleum gas, natural gas or petrol;
measurement of voltage and current on the test bench for vehicle parts and vehicles and the measurement of electric energy consumption at vehicles powered by an electric power train only;
Lifetime test on vehicle parts and vehicle using environmental simulation**

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS,

**[flexibility cat. A] the following usage of different versions of standard test methods granted here
[flexibility cat. C] the modification and further development of test procedures**

The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation. The list is publicly available on the website of the testing laboratory.

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 2 of 12

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

Location Landau Am Hölzel 11, Am Hölzel 17, Fichtenstraße 36, Bornheim In der Viehweide 15 und Bietigheim-Bissingen Robert-Bosch-Straße 12 (only office)

1. Function and service life testing of engines, connecting rods, power trains and attached parts [flexibility cat.-C]

AA-Dok1-003
2017-12

Instructions for commissioning of test benches

The above method is characterised by the measurands listed in the table below:

Test type	Measurand	Measuring range	Expanded measurement uncertainty **
Function and service life testing	Torque	- 50 to 50 Nm - 200 to 200 Nm - 1 to 1 kNm - 2 to 2 kNm - 3 to 3 kNm - 5 to 5 kNm - 10 to 10 kNm	0.1% MBU
	Speed	50 to 15,000 rpm in both directions of rotation	0.014 % MBU

** The value indicated is the expanded measurement uncertainty, which results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$. The value of the measurand lies within the assigned value interval with a probability of 95%.

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

Test type	Measurand	Measuring range	Expanded measurement uncertainty **
	Temperature	Measuring chain resistance thermometer PT 100 without probe: - 100 to 650 °C Probe PT 100: - 100 to 300 °C Measuring chain thermocouple Ni-CrNi without probe: 0 to 1350 °C Probe Ni-CrNi: - 100 to 1100 °C	Measuring chain resistance thermometer PT 100 Without probe: 0.15 % MBU Probe PT 100: 0.19 + 0.002 T Measuring chain thermocouple Ni-CrNi without probe: 0.15 % MBU Probe Ni-CrNi: - 40 to 375 °C: 1.65 T 375 to 1000 °C: 0.69 + 0.004 T
	Pressure	Absolute pressure measurement: 800 to 1200 mbar Relative pressure measurement in the measuring ranges: - 1000 to 0 mbar - 100 to 150 mbar - 100 to 250 mbar - 1,000 to 2,500 mbar 0 to 1,000 mbar 0 to 6 bar 0 to 10 bar 0 to 16 bar 0 to 60 bar 0 to 250 bar 0 to 400 bar	Absolute pressure measurement: 0.4 % MBU Relative pressure measurement in the measuring ranges: 0.4 % MBU
	Humidity	10 to 90% RH	5 % MBU
	Flow (fuel)	discontinuous: 0 to 80 kg/h 0 to 150 kg/h continuous: 0.82 to 82 kg/h 2.5 to 250 kg/h	discontinuous: 0,2% MW continuous: 0,2% MW

** The value indicated is the expanded measurement uncertainty, which results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$. The value of the measurand lies within the assigned value interval with a probability of 95%.

Location Landau Am Hölzel 11 (LD1), Am Hölzel 17 (LD3), Fichtenstraße 36 (LD4) and Bietigheim-Bissingen Robert-Bosch-Straße 12 (BiBi – only office)

2. Emissions of gaseous and particulate pollutants from positive-ignition/compression-ignition engines and the measurement of electric energy consumption at vehicles powered by an electric power train only [flexibility acc. cat. A]

Directive 2005/55/EC 2005-09	Directive 2005/55/EC of the European Parliament and of the Council of 13 December 1999 on the approximation of the laws of the Member States relating to measures to be taken against the emission of gaseous and particulate pollutants from compression ignition engines for use in vehicles, and the emission of gaseous pollutants from positive ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles, Directive 2005/55/EC of 28.09.2005, as last amended by Directive 2005/78/EC of 14.11.2005 and Directive 2008/74/EC of 18.07.2008	LD1 LD3 BiBi
Commission Regulation No 582 /2011, Regulation No 49 2011-05	COP as per Euro 6, Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council in conjunction with Regulation ECE R 49, Official Journal of the European Union L 167/1	LD1 LD3 BiBi
UN ECE R 49 2013-01	Regulation No 49 of the Economic Commission for Europe of the United Nations (UN/ECE) - Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition and positive-ignition engines for use in vehicles	LD1 LD3 BiBi

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

UN ECE R 83 2024-01	Regulation No 83 of the Economic Commission for Europe of the United Nations (UNECE) - Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements [2015/1038], L 172/1, 03.07.2015 <i>Note: Without Annex 7 Type IV test</i>	LD3 BiBi
UN ECE R 85 2014-11	Regulation No 85 of the Economic Commission for Europe of the United Nations (UN/ECE) — Uniform provisions concerning the approval of internal combustion engines or electric drive trains intended for the propulsion of motor vehicles of categories M and N with regard to the measurement of net power and the maximum 30 minutes power of electric drive trains	LD1 (combustion) LD4 (e-Drive)
UN ECE R 101 2024-02	Regulation No 101 of the Economic Commission for Europe of the United Nations (UN/ECE) - Uniform provisions concerning the approval of passenger cars powered by an internal combustion engine only, or powered by a hybrid electric power train with regard to the measurement of the emission of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range, and of categories M 1 and N 1 vehicles powered by an electric power train only with regard to the measurement of electric energy consumption and electric range	LD3 BiBi
UN ECE R 154 2022-10	Uniform provisions concerning the approval of light duty passenger and commercial vehicles with regards to criteria emissions, emissions of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range (WLTP)	LD3 BiBi
NMX-AA-11-1993- SCFI 1993-12	Test Method for the Evaluation of Exhaust Emissions for new Motor Vehicles in Production that use Gasoline as fuel	LD3 BiBi

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 6 of 12

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

VO (EU) 2017/1151 2023-03	Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008, L 175/19 <i>Note: Without Annex VI Type 4 test</i>	LD3 BiBi
40 CFR Part 1066 2024-08	Vehicle-Testing Procedure <i>Note:</i> Without Subpart J Evaporative Emission Test Procedure and Without §1066.831 SC03 Test Procedure	LD3 BiBi
40 CFR Part 86 2024-08	Control of emissions from new and in-use highway vehicles and engines, Subpart B <i>Note:</i> Without §86.133/§86.134/§86.138 Evaporative Emission Test Procedure and Without §86.146 Fuel Spitback Test Procedure and Without §86.150 - §86.157 Refueling Test Procedure and Without §86.160 SC03 Test Procedure and Without §86.165 Air conditioning idle Test Procedure Subpart S	LD3 BiBi
40 CFR Part 600 2024-08	Fuel economy and greenhouse gas exhaust emissions of motor vehicles	LD3 BiBi
TRIAS 08-001-01 2018-01	Test for fuel consumption rate (JC08-Mode)	LD3 BiBi
TRIAS 08-002-02 2018-03	Test for fuel consumption rate (WLTC-Mode)	LD3 BiBi

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 7 of 12

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

TRIAS 08-006-01 2018-01	Test for per-charge range and AC power consumption rate (JC08-Mode)	LD3 BiBi
TRIAS 08-007-01 2018-01	Test for per-charge range and AC power consumption rate (compatible with JC08-Mode, range estimate method)	LD3 BiBi
TRIAS 08-J042GTR015-01 2020-06	Test for fuel consumption rate (Global Technical Regulation No. 15 (WLTC-Mode))	LD3 BiBi
TRIAS 08-J042R154-01 2023-09	Test for fuel consumption rate (Agreement Regulation No. 154)	LD3 BiBi
TRIAS 31-J042-(3)-03 2017-04	Test for exhaust emissions of light- and medium-duty motor vehicles (JC08H + JC08C-Mode (compatible with post new long-term regulations))	LD3 BiBi
TRIAS 31-J042-(2)-03 2017-07	Test for exhaust emissions of light- and medium-duty motor vehicles (JC08H + JC08C-Mode)	LD3 BiBi
TRIAS 31-J042-(4)-02 2018-03	Test for exhaust emissions of light- and medium-duty motor vehicles (WLTC-Mode)	LD3 BiBi
TRIAS 31-J042GTR015-01 2020-06	Test for exhaust emissions of light- and medium-duty motor vehicles (Global Technical Regulation No.15 (WLTC-Mode))	LD3 BiBi
TRIAS 31 -J042R154-02 2023-09	Test for exhaust emissions of light- and medium-duty motor vehicles (Agreement Regulation No. 154)	LD3 BiBi
Announcement that prescribes details of safety regulations for road vehicles Attachment 42 2023-09	Measurement procedures for exhaust emissions of light- and medium-duty motor vehicles Part 1 (JC08-Mode method) und Part 2 (WLTC-Mode method)	LD3 BiBi
GB 18352.5-2013 2013-09	Limits and measurement methods for emissions from light-duty vehicles (China 5) Note: without Annex F Type IV test	LD3 BiBi

Valid from: 30.04.2025

Date of issue: 30.04.2025

Page 8 of 12

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

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

GB 18352.6-2016 2016-12	Limits and measurement methods for emissions from light-duty vehicles (China 6) Note: without Annex F Type IV test and without Annex I Type VII test	LD3 BiBi
GB/T 19233 2020-06	Measurement Methods of Fuel Consumption for Light-duty Vehicles	LD3 BiBi

Annex to the Partial Accreditation Certificate D-PL-11082-01-02

Location Landau Am Hölzel 11 und 17, Landau Fichtenstraße 36 und Bornheim In der Viehweide 15, Bietigheim-Bissingen Robert-Bosch-Straße 12 (only office)

3. Measurement of voltage AC/DC and current AC/DC on the test bench for vehicle parts and vehicles

VA-KAL-023 Alternating current measurement

Rev. 2.0

2021-08

VA-KAL-024 Direct current measurement

Rev. 2.0

2021-08

VA-KAL-025 Alternating current measurement

Rev. 2.0

2021-08

VA-KAL-026 Process instruction: direct current measurement

Rev. 1.0

2018-10

VA-KAL-027 Measurement uncertainty voltage and current measurement

Rev. 2.0

2021-08

Location Landau Fichtenstraße 36 and Bornheim In der Viehweide 15

**4. Lifetime test on vehicle parts and vehicle using environmental simulation
[flexibility cat. A]**

Low temperature check

DIN EN 60068-2-1 2008-01	Environmental testing - Part 2-1: Tests - Test A: Cold (IEC 60068-2-1:2007); German version EN 60068-2-1:2007
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Lifetime tests with temperature and humidity

DIN EN 60068-2-2 2008-05	Environmental testing - Part 2-2: Tests - Test B: Dry heat (IEC 60068-2-2:2007); German version EN 60068-2-2:2007
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DIN EN 60068-2-14 2010-04	Environmental testing - Part 2-14: Tests - Test N: Change of temperature (IEC 60068-2-14:2009); German version EN 60068-2-14:2009
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DIN EN 60068-2-30 2006-06	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h +12 h) (IEC 60068-2-30:2005); German version EN 60068-2-30:2005
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DIN EN 60068-2-38 2010-06	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test (IEC 60068-2-38:2009); German version EN 60068-2-38:2009
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DIN EN IEC 60068-2-38 2022-09 Corrigendum 2024-07	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test (IEC 60068-2-38:2021); German version EN IEC 60068-2-38:2021; Corrigendum 1
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DIN EN 60068-2-78 2014-02	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state (IEC 60068-2-78:2013); German version EN 60068-2-78:2013
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Annex to the Partial Accreditation Certificate D-PL-11082-01-02

Abbreviations used:

AA	Work instructions of APL Automobil-Prüftechnik Landau GmbH
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardization)
ECE	United Nations Economic Commission for Europe
EN	European standard
GB	GuoBiao Standards, National Standard of the People's Republic of China (Mandatory)
GB/T	GuoBiao Standards, National Standard of the People's Republic of China (Recommended)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MBU	Measurement Range Uncertainty
NMX	Norma Mexicana
RH	Relative Humidity
TRIAS	Test Requirements and Instructions for Automobile Standards (Japan)
UN	Regulation of the United Nations Economic Commission for Europe
VA	Procedure instruction (test instruction) of APL Automobil-Prüftechnik Landau GmbH

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Page 12 of 12

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