

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-20281-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 03.12.2020

Date of issue: 03.12.2020

Holder of certificate:

Deutsche Ölwerke Lubmin GmbH
Freesendorfer Weg 4, 17509 Lubmin

Tests in the fields:

Chemical and physical-chemical testing of mineral oil and related products; Selected properties of lubricants such as engine oils, gear oils and hydraulic oils

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAKKS, to apply the standardized test methods in different versions listed in this document. The testing laboratory maintains a current list of all test methods within the flexible scope of accreditation.

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

*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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1. Automotive Oils

Test Method	Title	Process-Matrix-Number⁺
	Density at 15 °C	5.1.22
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	5.1.22
	Kinematic Viscosity at 40 °C and 100 °C	5.1.54
DIN 51562-1 1999-01	Viscometry - Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 1: Viscometer specification and measurement procedure	5.1.54
DIN 51659-2 2017-02	Lubricants - Test methods - Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	--.-
	HTHS-Viscosity	5.1.142
ASTM D 5481 2013	Standard Test Method for Measuring Apparent Viscosity at High-Temperature and High-Shear Rate by Multicell Capillary Viscometer	--.-
	CSS Viskosity (Apparent Viscosity)	5.1.173
ASTM D 5293 2017a	Standard Test Method for Apparent Viscosity of Engine Oils between -5 °C and -30 °C using the Cold Cranking Simulator	5.1.173
	Viscosity Index	5.1.171
DIN ISO 2909 2004-08	Petroleum products - Calculation of viscosity index from kinematic viscosity	5.1.171
	Evaporation Loss	5.1.141
ASTM D 5800 2019a	Standard Test Method for Evaporation Loss of Lubricating Oil by the Noack Method	--.-

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Test Method	Title	Process-Matrix-Number^{†)}
	Flash Point (COC)	5.1.28
DIN EN ISO 2592 2018-01	Petroleum products - Determination of flash and fire points - Cleveland open cup method	5.1.28
	Pour Point	5.1.79
ASTM D 7346 2015	Standard Test Method for No Flow Point and Pour Point of Petroleum Products and Liquid Fuels	--.-
	Colour	5.1.26
DIN ISO 2049 2001-06	Petroleum products - Determination of colour (ASTM scale)	5.1.26
	IR-Spectrum	5.1.166
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	5.1.166
	Total Base Number	5.1.70
ASTM D 2896 2015	Standard Test Method for Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration	--.-
	Additive Elements	
ASTM D 4927 2015	Standard Test Method for Elemental Analysis of Lubricant and Additive Components – Barium, Calcium, Phosphorus, Sulfur, and Zinc by Wavelength-Dispersive X-Ray Fluorescence Spectroscopy	--.-
	MRV Viscosity	5.1.120
ASTM D 4684 2018	Standard Test Method for Determination of Yield Stress and Apparent Viscosity of Engine Oils at Low Temperature	5.1.120
	Sulfated Ash	5.1.93
DIN 51575 2016-06	Testing of mineral oils - Determination of sulfated ash	5.1.93

2. Gear Oils

Test Method	Title	Process-Matrix-Number⁺⁾
	Density at 15°C	5.2.22
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	5.2.22
	Kinematic Viscosity at 40 °C and 100 °C	5.2.54
DIN 51562-1 1999-01	Viscometry - Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 1: Viscometer specification and measurement procedure	5.2.54
DIN 51659-2 2017-02	Lubricants - Test methods - Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	-.-.-
	Viscosity Index	5.2.171
DIN ISO 2909 2004-08	Petroleum products - Calculation of viscosity index from kinematic viscosity	5.2.171
	Evaporation Loss	
ASTM D 5800 2019a	Standard Test Method for Evaporation Loss of Lubricating Oil by the Noack Method	-.-.-
	Flash Point (COC)	5.2.28
DIN EN ISO 2592 2018-01	Petroleum products - Determination of flash and fire points - Cleveland open cup method	5.2.28
	Pour Point	5.2.79
ASTM D 7346 2015	Standard Test Method for No Flow Point and Pour Point of Petroleum Products and Liquid Fuels	-.-.-
	Colour	5.2.26
DIN ISO 2049 2001-06	Petroleum products - Determination of colour (ASTM scale)	5.2.26

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Test Method	Title	Process-Matrix-Number⁺⁾
	IR-Spectrum	
DIN 51451 2020-02	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	-.-.-
	Additive Elements	
ASTM D 4927 2015	Standard Test Method for Elemental Analysis of Lubricant and Additive Components – Barium, Calcium, Phosphorus, Sulfur, and Zinc by Wavelength-Dispersive X-Ray Fluorescence Spectroscopy	-.-.-
	Brookfield Viscometry	5.2.229
ASTM D 2983 2009	Standard Test Method for Low-Temperature Viscosity of Lubricants Measured by Brookfield Viscometer	5.2.229

3. Hydraulic oils (HL, HLP, HVLP)

Test Method	Title	Process-Matrix-Number⁺⁾
	Density at 15°C	6.16.170
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	6.16.170
	Kinematic Viscosity at 100 °C	6.16.117
DIN 51562-1 1999-01	Viscometry - Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 1: Viscometer specification and measurement procedure	6.16.117
DIN 51659-2 2017-02	Lubricants - Test methods - Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	-.-.-
	Kinematic Viscosity at 40 °C	6.16.118
DIN 51562-1 1999-01	Viscometry - Measurement of kinematic viscosity by means of the Ubbelohde viscometer - Part 1: Viscometer specification and measurement procedure	6.16.118

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Test Method	Title	Process-Matrix-Number⁺⁾
DIN 51659-2 2017-02	Lubricants - Test methods - Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	-.-.-
	Viscosity Index	
DIN ISO 2909 2004-08	Petroleum products - Calculation of viscosity index from kinematic viscosity	-.-.-
	Evaporation Loss	
ASTM D 5800 2019a	Standard Test Method for Evaporation Loss of Lubricating Oil by the Noack Method	-.-.-
	Flash Point	6.16.28
DIN EN ISO 2592 2018-01	Petroleum products - Determination of flash and fire points - Cleveland open cup method	6.16.28
	Pour Point	6.16.79
ASTM D 7346 2015	Standard Test Method for No Flow Point and Pour Point of Petroleum Products and Liquid Fuels	-.-.-
	Colour	
DIN ISO 2049 2001-06	Petroleum products - Determination of colour (ASTM scale)	-.-.-
	IR-Spectrum	
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	-.-.-
	Additive Elements	
ASTM D 4927 2015	Standard Test Method for Elemental Analysis of Lubricant and Additive Components – Barium, Calcium, Phosphorus, Sulfur, and Zinc by Wavelength-Dispersive X-Ray Fluorescence Spectroscopy	-.-.-

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Abbreviations used:

ASTM	American Society for Testing and Materials
DIN	Deutsches Institut für Normung e.V.
EN	European Standard
ISO	International Organization for Standardization
Process-Matrix- Number+)	Number of the characteristics within the Process-Matrix for Mineral Oil (72 FB 005.26 Version 1.2, August 2017)