DAkkS
Deutsche
Akkreditierungsstelle

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

OELCHECK GmbH
Kerschelweg 28, 83098 Brannenburg

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

chemical and physical-chemical analysis of mineral oils and related products; Analysis of selected properties of engine oils, gear oils, aircraft engine oils with and without additives, ship engine oils; new and used transformer oils, new and used heat transfer fluids type Q, shock absorber fluids, turbine and governor oil type TD and TG, refrigeration oils and hydraulic oils

The accreditation certificate shall only apply in connection with the notice of accreditation of 12.01.2016 with the accreditation number D-PL-11057-01 and is valid until 19.06.2019. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 8 pages.

Registration number of the certificate: **D-PL-11057-01-00**

Berlin, 12.01.2016	Dr. Heike Manke Head of Division	Translation issued: 12.01.2016	Head of Division

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

See notes overleaf.

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Annex to the Accreditation Certificate D-PL-11057-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 12.01.2016 to 19.06.2019 Date of issue: 12.01.2016

Holder of certificate:

OELCHECK GmbH
Kerschelweg 28, 83098 Brannenburg

Tests in the fields:

chemical and physical-chemical analysis of mineral oils and related products; Analysis of selected properties of engine oils, gear oils, aircraft engine oils with and without additives, ship engine oils; new and used transformer oils, new and used heat transfer fluids type Q, shock absorber fluids, turbine and governor oil type TD and TG, refrigeration oils and hydraulic oils

Abbreviations used: see last page

DAkkS Deutsche Akkreditierungsstelle

1. Engine Oils

Analysis Standard	Test description/Analysis method	Technique
ASTM D 5185 2013e1	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	ICP
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	FTIR
DIN 51453 2004-10	Testing of lubricants - Determination of oxidation and nitration of used motor oils - Infrared spectrometric method	
ISO 3771 2011-09	Petroleum products – Deterination of base number – Perchloric acid potentiometric titration method	BN
DIN 51639-1 2014-11	Testing of lubricants – test methods – Part 1: Determination of total base number	BN
ASTM D 664 2011a	Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration	AN
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)
DIN 51408-2 2009-06	Testing of mineral oil hydrocarbons - Determination of chlorine content - Part 2: Microcoulometric determination, oxidation method	Chlorine Content

2. Gear Oils

Analysis Standard	Test description/Analysis method	Technique
ASTM D 5185 2013e1	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	ICP
ASTM D 664 2011a	Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration	AN
DIN ISO 9120 2005-08	Petroleum and related products - Determination of air-release properties of steam turbine and other oils - Impinger method	Air Release (LAV)
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)
DIN 51408-2 2009-06	Testing of mineral oil hydrocarbons - Determination of chlorine content - Part 2: Microcoulometric determination, oxidation method	Chlorine Content

3. Aircraft Engine Oils with and without additives

Analysis Standard	Test description/Analysis method	Technique
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)

4. Ship Engine Oils

Analysis Standard	Test description/Analysis method	Technique
ASTM D 5185 2013e1	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	ICP
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	FTIR
DIN 51453 2004-10	Testing of lubricants - Determination of oxidation and nitration of used motor oils - Infrared spectrometric method	
ISO 3771 2011-09	Petroleum products – Deterination of base number – Perchloric acid potentiometric titration method	BN
DIN 51639-1 2014-11	Testing of lubricants – test methods – Part 1: Determination of total base number	BN
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)

5. New and used Transformer Oils

Analysis Standard	Test description/Analysis method	Technique
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
DIN EN 60156 1996-03	Insulating liquids - Determination of the breakdown voltage at power frequency - Test method (IEC 60156:1995)	DUSP
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity

6. New and used Heat Transfer Oils, type Q

Analysis Standard	Test description/Analysis method	Technique
ASTM D 5185 2013e1	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	ICP
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN 51408-2 2009-06	Testing of mineral oil hydrocarbons - Determination of chlorine content - Part 2: Microcoulometric determination, oxidation method	Chlorine Content

7. Shock Absorber Fluids

Analysis Standard	Test description/Analysis method	Technique
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)

8. Governor Oils, type TD, TG

Analysis Standard	Test description/Analysis method	Technique
DIN ISO 9120 2005-08	Petroleum and related products - Determination of air-release properties of steam turbine and other oils - Impinger method	Air Release (LAV)
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)

9. Refrigeration Oils

Analysis Standard	Test description/Analysis method	Technique
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	FTIR
DIN 51453 2004-10	Testing of lubricants - Determination of oxidation and nitration of used motor oils - Infrared spectrometric method	
ISO 3771 2011-09	Petroleum products; total base number; perchloric acid potentiometric titration method	BN
DIN 51639-1 2014-11	Testing of lubricants – test methods – Part 1: Determination of total base number	BN
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity
DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method	Flash Point (open cup)

10. Hydraulic Oils

Analysis Standard	Test description/Analysis method	Technique
DIN ISO 9120 2005-08	Petroleum and related products - Determination of air-release properties of steam turbine and other oils - Impinger method	Air Release (LAV)
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
DIN ISO 13357-2 2008-09	Petroleum products - Determination of the filterability of lubricating oils - Part 2: Procedure for dry oils (ISO 13357-2:2005)	Filterability
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity

11. Lubricating Oils

Analysis Standard	Test description/Analysis method	Technique
ASTM D 5185 2013e1	Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	ICP
DIN 51757 2011-01	Testing of mineral oils and related materials - Determination of density (Method 4)	Density
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method (ISO 12185:1996)	
ASTM D 7279 2014a	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids by Automated Houillon Viscometer	Viskosity

Abbreviations used:

ASTM	American Society for Testing and Materials
BN	Base Number (Basenzahl)
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardization)
DUSP	Disruptive Discharge Voltage (Durchschlagspannung)
FTIR	Fourier transform infrared spectroscopy
ICP	Inductively Coupled Plasma
LAV	Air Release Properties