

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-21313-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from: 31.08.2020**

Date of issue: 18.02.2021

Holder of certificate:

**Groz-Beckert Kommanditgesellschaft  
Zentrallabor  
Parkweg 2, 72458 Albstadt**

Tests in the fields:

**selected physical and physical-chemical examinations of waters (effluent, process water, cooling water, well water);**

**chemical and physical-chemical testing of mineral oil products and related products such as lubricating oil (textile machine oils, needle oils, board oils, motor oils, gear oils, cycle gear oils, industry gear oils C, CL, CLP, corrosion preventatives, refrigerating machine oils, air compressor oils, hydraulic oils, pressure fluids for hydraulic systems);**

**mechanic-technological examinations on seams, threads, textile fabrics, plastics and metallic materials;**

**chemical analysis of metallic materials**

**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.**

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>*

**Annex to the accreditation certificate D-PL-21313-01-00**

**1 selected physical and physical-chemical examinations of waters (effluent, process water, cooling water, well water)**

DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH
DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)

**2 chemical and physical-chemical testing of mineral oil products and related products such as lubricating oil (textile machine oils, needle oils, board oils, motor oils, gear oils, cycle gear oils, industry gear oils C, CL, CLP, corrosion preventatives, refrigerating machine oils, air compressor oils, hydraulic oils, pressure fluids for hydraulic systems)**

<b>Test method</b>	<b>description</b>	<b>Test method matrix number<sup>1)</sup></b>
DIN 51451 2004-09	Testing of petroleum products and related products - Analysis by infrared spectrometry - General working principles	5.1.166 6.2.166 6.14.166
DIN ISO 2909 2004-08	Petroleum products - Calculation of viscosity index from kinematic viscosity	5.1.171 6.2.171 6.13.171 6.16.171
DIN 51659-2 2017-02	Lubricants - Test methods - Part 2: Determination of the kinematic viscosity of used lubricating oils by Stabinger viscometer	
DIN EN ISO 2592 2018-01	Petroleum and related products - Determination of flash and fire points - Cleveland open cup method	5.1.28 6.2.28 6.13.28 6.16.28
DIN ISO 6618 2015-07	Petroleum products and lubricants - Determination of acid or base number - Colour-indicator titration method	6.13.70

**-Translation-**

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**Annex to the accreditation certificate D-PL-21313-01-00**

DIN 51777 2020-04	Petroleum products - Determination of water content using titration according to Karl Fischer	5.1.106 6.2.106 6.13.106 6.16.106
DIN 51418-1 2008-08	X-ray spectrometry - X-ray emission- and X-ray fluorescence analysis (XRF) - Part 1: Definitions and basic principles	-
DIN ISO 7120 2000-05 Inkl. Berichtigung 1 2007-06	Petroleum products and lubricants - Petroleum oils and other fluids - Determination of rust-preventing characteristics in the presence of water	5.2.174 6.2.174 6.13.174 6.16.174
DIN EN ISO 2160 1999-04	Petroleum products - Corrosiveness to copper - Copper strip test	5.2.60 6.2.60 6.13.60 6.14.60 6.16.60

**3 mechanic-technological examinations on seams, threads, textile fabrics, plastics and metallic materials**

DIN EN ISO 1973 1995-12	Textiles - Determination of linear density - Gravimetric method and vibroscope method
DIN 53808-1 2003-01	Testing of textiles - Determination of length of fibres by measuring of individual fibres
DIN EN ISO 5079 1996-02	Textiles - Fibres - Determination of breaking force and elongation at break of individual fibres
DIN EN ISO 2060 1995-04	Textiles - Yarn from packages - Determination of linear density (mass per unit length) by the skein method
DIN EN 13392 2001-12	Textiles - Monofilaments - Determination of linear density
DIN 53830-3 1981-05	Testing of textiles - determination of linear density of single and plied yarns - simple yarns and plied yarns, textured yarns, short length method
DIN EN ISO 2062 2010-04	Textiles - Yarns from packages - Determination of single-end breaking force and elongation at break using constant rate of extension (CRE) tester

**-Translation-**



**Annex to the accreditation certificate D-PL-21313-01-00**

DIN EN 13895 2003-07	Textiles - Monofilaments - Determination of tensile properties
DIN EN ISO 2061 2015-12	Textiles - Determination of twist in yarns - Direct counting method
DIN EN 14971 2006-04	Textiles - Knitted fabrics - Determination of number of stitches per unit length and unit area
DIN EN 1049-2 1994-02	Textiles - woven fabrics - construction; methods of analysis - part 2: determination of number of threads per unit length
DIN 53852 1991-09	Testing of textiles - determination of yarn length ratios in woven and knitted fabrics
DIN 53856 2001-02	Testing of textiles - Determination of the mass portion of warp and weft
DIN EN 12127 1997-12	Textiles - Fabrics - Determination of mass per unit area using small samples
DIN EN 29073-1 1992-08	Textiles - test method for nonwovens - Part 1: determination of mass per unit area
DIN EN ISO 5084 1996-10	Textiles - Determination of thickness of textiles and textile products
DIN EN ISO 9073-2 1997-02	Textiles - Test methods for nonwovens - Part 2: Determination of thickness
DIN 53885 1998-12	Textiles - Determination of compression of textiles and textile products
DIN EN ISO 13934-1 2013-08	Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method
DIN EN ISO 13934-2 2014-06	Textiles - Tensile properties of fabrics - Part 2: Determination of maximum force using the grab method
DIN EN 29073-3 1992-08	Textiles - test method for nonwovens - part 3: determination of tensile strength and elongation
DIN EN ISO 13938-2 1999-10	Textiles - Bursting properties of fabrics - Part 2: Pneumatic method for determination of bursting strength and bursting distension

**-Translation-**

**Annex to the accreditation certificate D-PL-21313-01-00**

DIN EN ISO 9237 1995-12	Textiles - Determination of permeability of fabrics to air
DIN EN ISO 9073-15 2008-08	Textiles - Test methods for nonwovens - Part 15: Determination of air permeability
DIN EN ISO 12945-2 2000-11	Textiles - Determination of fabric propensity to surface fuzzing and to pilling - Part 2: Modified Martindale method
DIN EN ISO 12947-2 2017-03	Textiles - Determination of the abrasion resistance of fabrics by the Martindale method - Part 2: Determination of specimen breakdown
DIN EN ISO 12947-3 2007-04	Textiles - Determination of abrasion resistance of fabrics by the Martindale method - Part 3: Determination of mass loss
DIN EN ISO 12947-4 2007-04	Textiles - Determination of abrasion resistance of fabrics by the Martindale method - Part 4: Assessment of appearance change
DIN EN ISO 5470-2 2003-10	Rubber- or plastics-coated fabrics - Determination of abrasion resistance - Part 2: Martindale abrader
DIN EN ISO 13935-1 2014-07	Textiles - Seam tensile properties of fabrics and made-up textile articles - Part 1: Determination of maximum force to seam rupture using the strip method
DIN EN ISO 13935-2 2014-07	Textiles - Seam tensile properties of fabrics and made-up textile articles - Part 2: Determination of maximum force to seam rupture using the grab method
DIN EN ISO 12236 2006-11	Geosynthetics - Static puncture test (CBR test)

**4 Thermic, physical and mechanic-technological and other examinations of plastics**

DIN 51006 2005-07	Thermal analysis (TA) - Thermogravimetry (TG) - Principles
DIN EN ISO 11357-1 2017-02	Plastics - Differential scanning calorimetry (DSC) - Part 1: General principles

**-Translation-**

**Annex to the accreditation certificate D-PL-21313-01-00**

DIN EN ISO 11357-2 2014-07	Plastics - Differential scanning calorimetry (DSC) - Part 2: Determination of glass transition temperature and step height
DIN EN ISO 11357-3 2018-07	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization
DIN EN ISO 11358-1 2014-10	Plastics - Thermogravimetry (TG) of polymers - Part 1: General principles
E DIN EN ISO 307 2018-01	Plastics - Polyamides - Determination of viscosity number
DIN EN ISO 1628-1 2012-10	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometer - Part 1: General principles
ISO 1628-2 1998-12	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 2: Poly(vinyl chloride) resins
DIN EN ISO 1628-3 2010-10	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 3: Polyethylenes and polypropylenes
ISO 1628-4 1999-03	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 4: Polycarbonate (PC) moulding and extrusion materials
DIN EN ISO 1628-5 2015-05	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 5: Thermoplastic polyester (TP) homopolymers and copolymers
ISO 1628-6 1990-02	Plastics - determination of viscosity number and limiting viscosity number - part 6: methyl methacrylate polymers
SOP-2025 2018-10	Determination of filler and carbon black content with the TGA ( <i>not within flexible scope</i> )

**5 Mechanic-technological testing and chemical analysis of metallic materials**

DIN EN 10328 2005-04	Iron and steel - Determination of the conventional depth of hardening after surface heating
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**-Translation-**



**Annex to the accreditation certificate D-PL-21313-01-00**

DIN 50190-3 1979-03	Hardness depth of heat-treated parts - determination of the effective depth of hardening after nitriding
DIN EN ISO 2639 2003-04	Steels - Determination and verification of the depth of carburized and hardened cases
DIN EN ISO 6506-1 2015-02	Metallic materials - Brinell hardness test - Part 1: Test method (here: <i>HBW 2,5/62,5 and HBW 2,5/187,5</i> )
DIN EN ISO 6507-1 2018-07	Metallic materials - Vickers hardness test - Part 1: Test method (here: <i>HV 0,2 to HV 20</i> )
DIN EN ISO 6508-1 2016-12	Metallic materials - Rockwell hardness test - Part 1: Test method (here: <i>HRC</i> )
DIN EN ISO 6892-1 2017-02	Metallic materials - Tensile testing - Part 1: Method of test at room temperature
DIN EN ISO 4288 1998-04	Geometrical Product Specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture
DIN EN 10247 2017-09	Micrographic examination of the non-metallic inclusion content of steels using standard pictures
DIN EN ISO 3887 2018-05	Steels - Determination of the depth of decarburization
E DIN EN ISO 643 2017-09	Steels - Micrographic determination of the apparent grain size
DIN EN ISO 15350 2010-08	Steel and iron - Determination of total carbon and sulfur content - Infrared absorption method after combustion in an induction furnace (routine method) (here: <i>Method A</i> )
DIN EN ISO 15351 2010-08	Steel and iron - Determination of nitrogen content - Thermal conductimetric method after fusion in a current of inert gas (Routine method)
DIN EN 10276-2 2003-10	Chemical analysis of ferrous materials - Determination of oxygen content in steel and iron - Part 2: Infrared method after fusion under inert gas

**-Translation-**

**Annex to the accreditation certificate D-PL-21313-01-00**

Handbuch für das Eisen- hüttenlaboratorium band 2, part 2, p. 235 1995	Determination of hydrogen content within steels
SOP-1004 2020-01	Determination of oxygen, nitrogen and hydrogen in iron and steel by inert gas fusion <i>(not within flexible scope)</i>
SOP-1007 2019-12	Test method for optical emission spectroscopy of materials of iron base, aluminum base, copper base and steel grades like un- or low alloyed steel, high alloyed steel, free cutting steel and HSS-steel <i>(not within flexible scope)</i>

**abbreviations used:**

DIN	German Institute for Standardization
DSC	Differential Scanning Calorimetry
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
SOP	In house method of the Groz-Beckert Kommanditgesellschaft
Test method matrix number <sup>+) </sup>	Quality number according to test method matrix of mineral oils (72 FB 005.26 version 1.2, dated August 2017)

**-Translation-**