

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-18040-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 01.06.2023

Date of issue: 01.06.2023

Holder of accreditation certificate:

**CleanControlling GmbH
Labor für Technische Sauberkeit**

at the locations:

**Gehrenstraße 11 a, 78576 Emmingen-Liptingen
Lockwitzgrund 100, 01257 Dresden**

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 confirm generally with the principles of DIN EN ISO 9001.

Tests in the fields:

Examination of Technical Cleanliness on metallic and non-metallic materials, components, systems and fluids using the test methods of extraction, gravimetry, microscopical analysis, infrared spectroscopy and ion chromatography, Energy dispersive X-ray spectroscopy; Determination of surface energy of solid surfaces; Determination of filmic contamination using a microbalance

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

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Within the scope of accreditation marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing within the flexible scope of accreditation.

The test procedures are identified with the symbols listed below for the locations at which they are carried out:

D= Dresden

E = Emmingen – Liptingen

Examination of Technical Cleanliness with test methods of extraction, gravimetry, or microscopic analysis *

ISO 16232 * 2018-12	Road vehicles - Cleanliness of components of fluid circuits (except: 9.3 - 9.4)	E, D
ISO 4405 * 2022-07	Hydraulic fluid power - Fluid contamination - Determination of particulate contamination by the gravimetric method	E, D
ISO 4406 * 2021-01	Hydraulic fluid power - Fluids - Method for coding the level of contamination by solid particles	E
ISO 4407 * 2002-04	Hydraulic fluid power - Fluid contamination - Determination of particulate contamination by the counting method using an optical microscope	E
DIN 5422 * 2018-09	Rolling bearings – Measurement of technical cleanliness	E
VDA Band 19.1 * 2015	Inspection of Technical Cleanliness - Particulate Contamination of Functionally Relevant Automotive Components (except: 8.3 - 8.4)	E, D
AA 25-118 2022-09	Suction extraction according to VDA19.1 (2015) and ISO 16232 (2018)	E, D
VDI-guideline 2083 Blatt 23 2022-12	Cleanroom technology Extractable soluble residue testing Method for determining the actual condition and limit value testing	E

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Examination / identification of unknown substances in organic or inorganic materials with infrared spectroscopy (FTIR) *

ASTM E 1252 * 2013	Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis	E
VDA Band 19.1 * 2015	Inspection of Technical Cleanliness - Particulate contamination of functionally relevant automotive components (here: Chapter 8.3.5 IR (infrared spectroscopy))	E
ISO 16232 * 2018-12	Road vehicles - Technical Cleanliness of components and systems (here: Chapter 9.3.5 IR (infrared spectroscopy))	E

Examination of components with test methods of ion chromatography *

DIN EN ISO 14911 * 1999-12	Water quality - Determination of dissolved Li ⁺ , Na ⁺ , NH ₄ ⁺ , K ⁺ , Mn ²⁺ , Ca ²⁺ , Mg ²⁺ , Sr ²⁺ and Ba ²⁺ using ion chromatography - Method for water and waste water	E
DIN EN ISO 10304-1 * 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	E
IPC-TM-650 2.3.25 * 2012-11	Detection and Measurement of Ionizable Surface Contaminants by Resistivity of Solvent Extract (ROSE)	E
IPC-TM-650 2.3.25.1 * 2000-10	Ionic Cleanliness Testing of Bare PWBs	E
IPC-TM-650 2.3.28 * 2012-11	Ionic Analysis of Circuit Boards, Ion Chromatography Method	E
IPC-TM-650 2.3.28.2 * 2009-12	Bare Printed Board Cleanliness by Ion Chromatography	E
AA 25-116 2021-05	Determination of residual foreign matter in heat exchangers	E

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Material characterization using Energy dispersive X-ray spectroscopy (EDX) *

VDA Band 19.1 * 2015	Inspection of Technical Cleanliness - Particulate contamination of functionally-relevant automotive components (here: Chapter 8.3.2 REM/EDX)	E
ISO 16232 * 2018-12	Road vehicles - Cleanliness of components and systems (here: Chapter 9.3.2 REM/EDX)	E

Determination of the surface free energy of solid surfaces *

DIN EN ISO 19403-2 * 2020-04	Paints and varnishes - Wettability - Part 2: Determination of the surface free energy of solid surfaces by measuring the contact angle (ISO 19403-2:2017); german version EN ISO 19403-2:2020	E
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Determination of extractable soluble residues using QCM *

VDI-guideline 2083 Blatt 23 2022-12	Cleanroom technology Extractable soluble residue testing Method for determining the actual condition and limit value testing	E
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Abbreviations used:

AA	Standard Operating Procedure/Inhouse Procedure of the CleanControlling GmbH
ASTM	American Society for Testing and Materials
DIN	Deutsches Institut für Normung e.V. – German institute for standardization
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission
IPC	Association for standardization of electronic equipment
ISO	International Organization for Standardization
VDA	German Association of the Automotive Industry
VDI	Association of German Engineers
QCM	Quartz Crystal Microbalance

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