

## 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

**DIK Prüfgesellschaft mbH**  
**Eupener Straße 33, 30519 Hannover**

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

**mechanical-technological and chemical tests of rubber and plastics as well as  
determination of N-nitrosamines**

The accreditation certificate shall only apply in connection with the notice of accreditation of 09.01.2018 with the accreditation number D-PL-21095-01 and is valid until 05.11.2019. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 6 pages.

Registration number of the certificate: **D-PL-21095-01-00**

Berlin,  
09.01.2018

Dipl.-Ing. (FH) Ralf Egnér  
Head of Division

Translation issued:  
05.02.2018

  
Head of Division

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

See notes overleaf.

# Deutsche Akkreditierungsstelle GmbH

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The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkKS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). 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 Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

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

EA: [www.european-accreditation.org](http://www.european-accreditation.org)

ILAC: [www.ilac.org](http://www.ilac.org)

IAF: [www.iaf.nu](http://www.iaf.nu)

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-21095-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 09.01.2018 to 05.11.2019

Date of issue: 05.02.2018

Holder of certificate:

**DIK Prüfgesellschaft mbH**  
**Eupener Straße 33, 30519 Hannover**

Tests in the fields:

**mechanical-technological and chemical tests of rubber and plastics as well as determination of N-nitrosamines**

Abbreviations used: see last page

### **1 Tests on rubber and synthetics**

#### **1.1 Mechanical test**

DIN 53505 2000-08	Testing of rubber - Shore A and Shore D hardness test ( <i>withdrawn norm</i> )
DIN ISO 7619-1 2012-02	Rubber, vulcanized or thermoplastic - Determination of indentation hardness - Part 1: Durometer method (Shore hardness)
VDA 675102 1992 -12	Elastomer components in automotive - Testing of rubber, elastomers and plastics – Hardness, Shore A
DIN ISO 48 2009-10	Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)
VDA 675201 1992-12	Elastomer components in automotive - Testing methods for determination of characteristics - Hardness - Micro hardness test (IRHD)

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DIN ISO 815 2010-09	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures
VDA 675216 1992-12	Elastomer components in automotive - Test methods for determination of characteristics - Creep and relaxation - Compression set
DIN 53529-1 1983-03	Testing of rubber and elastomers; measurement of vulcanization characteristics (curometry); general working principles
DIN 53529-2 1983-03	Testing of rubber and elastomers; measurement of vulcanization characteristics (curometry); evaluation of cross-linking isotherms in terms of reaction kinetics
DIN 53529-3 1983-06	Testing of rubbers; curemetry; types and applications of rotorless curemeters
ISO 6502 1999-12	Rubber - Guide to the use of curemeters
DIN 53512 2000-04	Testing of rubber - Determination of rebound resilience (Schob pendulum)
ISO 4662 2009-08	Rubber, vulcanized or thermoplastic - Determination of rebound resilience
VDA 675219 1992-12	Elastomer components in automotive - Test method for determination of properties - Creep and relaxation - Rebound resilience
DIN 53504 2009-10	Testing of rubber - determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test
ISO 37 2011-12	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
VDA 675205 1992-12	Elastomer components in automotive - Test methods for determination of characteristics - Tensile stress-strain properties - Tensile test
DIN ISO 34-1 2004-07	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces

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DIN 53516 1987-06	Testing of rubber and elastomers; determination of abrasion resistance <i>(withdrawn norm)</i>
DIN ISO 4649 2006-11	Rubber, vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device (here only: methode A) <i>(withdrawn norm)</i>
VDA 675235 1992-12	Elastomer components in automotive - Test methods for determination of characteristics - Friction and wear - Abrasion
DIN 53523-2 1991-05	Determination of Mooney viscosity of rubber; test apparatus
DIN 53523-3 1976-11	Testing of Rubber and Elastomers; Testing with the Mooney Shearing Disk Viscometer; Determining the Mooney Viscosity
DIN 53523-4 1976-11	Testing of Rubber and Elastomers; Testing with the Mooney Shearing Disk Viscometer; Determining the Scorching Behaviour
ISO 289-1 2014-02	Rubber, unvulcanized - Determinations using a shearing-disc viscometer - Part 1: Determination of Mooney viscosity
ISO 289-2 1994-07	Rubber, unvulcanized - Determinations using a shearing-disc viscometer - Part 2: Determination of pre-vulcanization characteristics
DIN 53508 2000-03	Testing of rubber - Accelerated ageing
ISO 188 2011-10	Rubber, vulcanized or thermoplastic - Accelerated ageing and heat resistance tests
DIN 53509-1 2001-01	Testing of rubber - Determination of resistance to ozone cracking - Part 1: Static conditions <i>(withdrawn norm)</i>

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VDA 675311 1992-12	Elastomer components in automotive - Test methods for determination of durability - Effect of ozone
ISO 1431-1 2012-08	Rubber, vulcanized or thermoplastic - Resistance to ozone cracking - Part 1: Static and dynamic strain testing
DIN ISO 1817 2008-08	Rubber, vulcanized - Determination of the effect of liquids
VDA 675218 1992-12	Elastomer components in automotive - Test methods for determination of characteristics - Creep and relaxation - Plastic und elastic deformation (permanent deformation)
DIN EN ISO 1183-1 2013-04	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pyknometer method and titration method
VDA 675106 1992-12	Elastomer components in automotive - Test methods for identification - Density

**1.2 Determination of properties depending on temperature**

HM-3.2.1.7 Edition 9 2014-06	Determination of thermodynamic properties of elastomers and polymers by means of DSC
HM-3.2.1.8 Edition 9 2014-06	Thermo gravimetric analysis (TGA) of elastomer und polymer materials

**1.3 Chemical tests**

HM-3.2.1.2 Edition 9 2014-06	Infrared spectroscopic analysis of elastomers und polymers by means of ATR-technique
HM-3.2.1.3 Edition 10 2014-06	Infrared spectroscopic analysis of eluates and extracts of polymer materials in transmission
HM-3.2.1.6 Edition 9 2014-06	Identification of substances in extracts and eluates of elastomers and polymers materials by means of GC-MS

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HM-3.2.1.10 Edition 7 2014-06	Determination of non-volatile residue (NVR)
HM-3.2.1.5 Edition 13 2017-12	HPLC-UV screening analysis of eluates and extracts used in the pharmaceutical and food sector
HM-3.2.1.4 Edition 8 2014-06	Elution of filter elements with water and ethanol
HM-3.2.1.11 Edition 12 2014-06	Preparation of eluates and extracts of polymer materials used in the pharmaceutical and food sector for the subsequent analysis
HM-3.2.1.35 Edition 4 2014-06	Qualitative GC-MS analyses of eluates and extracts of polymer materials used in the pharmaceutical and food sector
HM-3.2.1.41 Edition 3 2014-06	Extraction of filter elements and capsules with pharmaceutical solutions or surrogates/ model solutions
HM-3.2.1.38 Edition 3 2014-06	Semi quantification of identified components in eluates and extracts of polymer materials with the help of internal standards by GC-MS analysis
HM-3.2.1.39 Edition 4 2017-12	Peak identification by standard addition and semi quantification in eluates and extracts of polymer materials by HPLC-UV analysis

**1.4 Determination of N-nitrosamines**

BGI 505.23, Procedure No. 4 N-Nitrosamine-4-GC- 1992-09	Method for the determination of N-nitrosamines in cumulative phases by capillary gas chromatography after elution
DIN EN 12868 1999-12	Child use and care articles - Methods for determining the release of N-nitrosamines and N-nitrosatable substances from elastomer or rubber teats and soothers

HM-3.2.1.18                      Determination of low-volatile N-nitrosamines by methanol  
Edition 5                              extraction in polymer matrices  
2014-06

HM-3.2.1.25                      Determination of high-volatile N-nitrosamines by methanol  
Edition 5                              extraction in polymer matrices  
2014-06

**Abbreviations used:**

BGA    Federal Ministry for Health  
BGI    Employers' Liability Insurance Association Information  
DIN    German Institute for Standardization  
EN    European Standard  
ISO    International Organization for Standardization  
HM    In house method for the Deutsches Institut für Kautschuktechnologie e.V.  
VDA    German Association of the Automotive Industry