

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

iLF Magdeburg GmbH
Fichtestraße 29, 39112 Magdeburg

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

characterisation of physical, mechanical and optical properties of coatings;
determination of resistance of coatings to liquids (chemical resistance tests);
environmental simulation tests on coatings, plastics, metallic materials, with or without corrosion protection and textiles (weathering tests, water condensation tests, corrosion tests, temperature and climate tests);
flexural tests, tensile tests and impact tests on plastics, rubber, adhesive bonds, textiles and metallic materials;
determination of burning behaviour of interior materials in motor vehicles (burning tests);
testing and assessing the ease of decontamination of radioactively contaminated surfaces;
chemical analysis on coating materials, plastics and other organic materials;
analysis of emissions from vehicle interior parts and materials, building products and furnishing

The accreditation certificate shall only apply in connection with the notice of accreditation of 09.07.2021 with the accreditation number D-PL-18869-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 27 pages.

Registration number of the certificate: **D-PL-18869-01-00**

Frankfurt am Main,
09.07.2021

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

Translation issued:
12.08.2021


Head of Division

*The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation may be found respectively in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

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

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-18869-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 09.07.2021

Date of issue: 12.08.2021

Holder of certificate:

iLF Magdeburg GmbH
Fichtestraße 29, 39112 Magdeburg

Tests in the fields:

characterisation of physical, mechanical and optical properties of coatings;
determination of resistance of coatings to liquids (chemical resistance tests);
environmental simulation tests on coatings, plastics, metallic materials, with or without corrosion protection and textiles (weathering tests, water condensation tests, corrosion tests, temperature and climate tests);
flexural tests, tensile tests and impact tests on plastics, rubber, adhesive bonds, textiles and metallic materials;
determination of burning behaviour of interior materials in motor vehicles (burning tests);
testing and assessing the ease of decontamination of radioactively contaminated surfaces;
chemical analysis on coating materials, plastics and other organic materials;
analysis of emissions from vehicle interior parts and materials, building products and furnishing

Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods. The listed testing methods are exemplary. (flexible scope Category I)

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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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. (flexible scope Category III)

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

1 Physical tests

1.1 Drying tests * (flexible scope Category III)**

DIN EN ISO 9117-3
2010-07 Paints and varnishes - Drying tests - Part 3: Surface-drying test using
ballotini

DIN EN ISO 9117-5
2012-11 Paints and varnishes - Drying tests - Part 5: Modified Bandow-Wolff
test

1.2 Determination of film thickness

1.2.1 Measurement of coating thickness by optical method * (flexible scope Category I)

DIN EN ISO 1463
2004-08 Metallic and oxide coatings - Measurement of coating thickness -
Microscopical method

DIN EN ISO 2808
2019-12 Paints and varnishes - Determination of film thickness
(here: *Method 6A - Cross-sectioning*)

1.2.2 Measurement of coating thickness by magnetic method * (flexible scope Category I)

DIN EN ISO 2178
2016-11 Non-magnetic coatings on magnetic substrates - Measurement of
coating thickness - Magnetic method

DIN EN ISO 2360
2017-12 Non-conductive coatings on non-magnetic electrically conductive
base metals - Measurement of coating thickness - Amplitude-
sensitive eddy-current method

DIN EN ISO 2808
2019-12 Paints and varnishes - Determination of film thickness
(here: *Method 7B.2 - Magnetic field change, magnetic-induction
principle and Method 7C - Eddy-current gauge*)

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1.2.3 Measurement of coating thickness of metallic coatings by coulometric method * (flexible scope Category I)

DIN EN 16866 2018-01	Metallic and other inorganic coatings - Simultaneous thickness and electrode potential determination of individual layers in multilayer nickel deposits (STEP test)
DIN EN ISO 1456 2009-12	Metallic and other inorganic coatings - Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium (here: <i>Annex E - Step test method</i>)
DIN EN ISO 2177 2004-08	Metallic coatings - Measurement of coating thickness - Coulometric method by anodic dissolution
ASTM B 764 2004	Standard Test Method for Simultaneous Thickness and Electrode Potential Determination of Individual Layers in Multilayer Nickel Deposit (STEP Test)

1.2.4 Determination of cracks and pores by copper deposition method * (flexible scope Category I)

DIN 53100 2020-04	Metallic coatings - Electroplated coatings of nickel plus chromium and of copper plus nickel plus chromium on plastics materials (here: <i>Annex C - Determination of cracks and pores in chromium coatings</i>)
DIN EN ISO 1456 2009-12	Metallic and other inorganic coatings - Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium (here: <i>Annex A - Determination of cracks and pores in chromium coatings</i>)

Flexible scope does not apply for the following specifications:

PV 1058 2020-03	Chrome-Plated Surfaces; Determination of the Micro-Crack Pattern on Chrome-Plated Surfaces
PV 1063 2018-11	Chrome-Plated Surfaces; Determining the Micropore Density
PV 1065 2013-04	Chrome-Plated Surfaces; Determination of Potential Differences and Layer Thicknesses of Nickel Coatings

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1.3 Permeability tests * (flexible scope Category III)**

DIN EN 927-5 2007-03	Paints and varnishes - Coating materials and coating systems for exterior wood - Part 5: Assessment of the liquid water permeability
DIN EN 1062-3 2008-04	Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 3: Determination of liquid water permeability
DIN EN ISO 7783 2019-02	Paints and varnishes - Determination of water-vapour transmission properties - Cup method

2 Mechanical tests

2.1 Determination of mechanical-technological properties * (flexible scope Category III)**

DIN EN ISO 1519 2011-04	Paints and varnishes - Bend test (cylindrical mandrel)
DIN EN ISO 1520 2007-11	Paints and varnishes - Cupping test
DIN EN ISO 1522 2007-04	Paints and varnishes - Pendulum damping test
DIN EN ISO 6272-1 2011-11	Paints and varnishes - Rapid-deformation (impact resistance) tests - Part 1: Falling-weight test, large-area indenter

Flexible scope does not apply for the following specifications:

PV 3905 2015-04	Organic Materials; Ball Drop Test
PV 3966 2016-12	PP Components; Stress Whitening Properties (Ball Drop Test)

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2.2 Adhesion tests

2.2.1 Pull-off test for assessment of the adhesion of coatings * (flexible scope Category I)

DIN EN 1542
1999-07 Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off

DIN EN ISO 4624
2016-08 Paints and varnishes - Pull-off test for adhesion

DIN EN ISO 16276-1
2007-08 Corrosion protection of steel structures by protective paint systems - Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating - Part 1: Pull-off testing

2.2.2 Cross-cut testing and X-cut testing for assessment of the adhesion of coatings * (flexible scope Category I)

DIN EN ISO 2409
2020-12 Paints and varnishes - Cross-cut test

DIN EN ISO 16276-2
2007-08 Corrosion protection of steel structures by protective paint systems - Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating - Part 2: Cross-cut testing and X-cut testing

Flexible scope does not apply for the following specifications:

AA-0180
2018-11 Cross hatch testing

DBL 5416
2017-08 Parts manufactured from Thermoplastics for Paneling, Housings and Functional Parts for External Applications
(here: *Section 12.4 - Cross cut with adhesive tape application and removal*)

FLTM BI 106-01
2017-05 Coating adhesion test

NES M 0007
2014-04 Testing method for automotive paint
(here: *Item 29 - Adhesion test method*)

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2.2.3 Scratch test

MAN 277
2019-03 Coatings - Adhesion test (scratch test)

MBN 10494-5
2021-03 Paint Test Methods - Part 5: Technical-Mechanical Tests
(here: *Section 5.2.1 - Manual scratch test*)

2.3 Stone-chipping tests * (flexible scope Category III)**

DIN EN ISO 20567-1
2017-07 Paints and varnishes - Determination of stone-chip resistance of
coatings - Part 1: Multi-impact testing

Flexible scope does not apply for the following specifications:

AA-0079
2018-02 Determination of multi impact stone chip resistance

DBL 5416
2017-08 Parts manufactured from Thermoplastics for Paneling, Housings and
Functional Parts for External Applications
(here: *Section 12.5 - Multi-impact test*)

MBN 10494-5
2021-03 Paint Test Methods - Part 5: Technical-Mechanical Tests
(here: *Section 5.3 - Multi-impact stone chipping test*)

TL 52711
2021-03 Underbody Applications; Engine Encapsulations, Transmission
Encapsulations, and c_d - Enhancing Underbody Panels Made of LWRT
(here: *Section 6.7 - Stone-chip resistance*)

FLTM BI 157-06
2019-01 High performance stone chip resistance test new rating scale

NES M 0007
2014-04 Testing method for automotive paint
(here: *Item 28.5 - Test with gravelometer method B*)

2.4 Steam-jetting tests * (flexible scope Category III)**

DIN EN ISO 16925
2014-06 Paints and varnishes - Determination of the resistance of coatings to
pressure water-jetting

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Flexible scope does not apply for the following specifications:

DBL 5416 2017-08	Parts manufactured from Thermoplastics for Paneling, Housings and Functional Parts for External Applications (here: <i>Section 12.6 - Pressure water-jetting test (Steam-jetting test)</i>)
MBN 10494-5 2021-03	Paint Test Methods - Part 5: Technical-Mechanical Tests (here: <i>Section 5.4 - Pressure-water jetting test</i>)
PV 1503 2018-10	Paintwork of Metallic and Non-Metallic Materials; Pressure Washer Test
FLTM BO 160-04 2018-02	Resistance of painted plastic parts to high pressure cleaning operations
STD4234 2004-05	Paints and varnishes - Determination of adhesion when subjected to high-pressure spraying with water
TPJLR.52.561 2009-11	Resistance of painted exterior parts to high pressure cleaning operations
VCS 1029, 54719 2006-04	Paints and enamels - Adhesion, water spraying under high-pressure

2.5 Abrasion and scratch tests

2.5.1 Determination of wet-scrub resistance * (flexible scope Category III)**

DIN EN 13300 2002-11	Paints and varnishes - Water-borne coating materials and coating systems for interior walls and ceilings - Classification
DIN EN ISO 11998 2006-10	Paints and varnishes - Determination of wet-scrub resistance and cleanability of coatings

2.5.2 Abrasion tests using the ABREX® test rig * (flexible scope Category III)**

DIN EN 60068-2-70 1996-07	Environmental testing - Part 2: Tests - Test Xb: Abrasion of markings and letterings caused by rubbing of fingers and hands
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2.5.3 Scratch tests on coatings using scratch hardness testers and spring-loaded pens * (flexible scope Category I)

DIN EN ISO 1518-1 2019-10	Paints and varnishes - Determination of scratch resistance - Part 1: Constant-loading method
DIN EN ISO 22557 2021-02	Paints and varnishes - Scratch test using a spring-loaded pen

Flexible scope does not apply for the following specifications:

PV 3952 2020-04	Plastic Components for the Vehicle Interior; Scratch Resistance Test
PV 3974 2020-06	Plastic Components; Determination of the Mar Resistance of Surfaces without Finish Treatment in Vehicle Interiors And Exteriors

2.5.4 Scratch tests on coatings using a crockmeter * (flexible scope Category I)

DIN EN ISO 105-X12 2016-11	Textiles - Tests for colour fastness - Part X12: Colour fastness to rubbing
DIN EN ISO 21546 2021-02	Paints and varnishes - Determination of the resistance to rubbing using a linear abrasion tester (crockmeter)

Flexible scope does not apply for the following specifications:

PV 3906 2018-12	Non-Metallic Planar Materials; Testing the Abrasion Behavior
PV 3987 2016-11	Scrub Resistance (Micro-Scratch Resistance) of High-Gloss Surfaces in the Vehicle Interior

3 Optical tests

3.1 Evaluation of colour coordinates of coatings by colour measurement * (flexible scope Category I)

DIN 6167 1980-01	Description of yellowness of near-white or near-colourless materials
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DIN EN ISO 6504-3 2020-04	Paints and varnishes - Determination of hiding power - Part 3: Determination of hiding power of paints for masonry, concrete and interior use
DIN EN ISO 18314-1 2018-12	Analytical colorimetry - Part 1: Practical colour measurement
DIN EN ISO 18314-2 2018-12	Analytical colorimetry - Part 2: Saunderson correction, solutions of the Kubelka-Munk equation, tinting strength, hiding power
DIN EN ISO 18314-3 2018-12	Analytical colorimetry - Part 3: Special indices
DIN EN ISO/CIE 11664-4 2020-03	Colorimetry - Part 4: CIE 1976 L*a*b* colour space

Flexible scope does not apply for the following specifications:

AA-0161 2018-04	Color Measurement on Bodies and Hang On Parts
AA-0354 2020-01	Technical Understanding of Color Measurement and the Measurement of Test Panels for Initial and Batch Release
MBN 10494-4 2021-02	Paint Test Methods - Part 4: Optical Tests (here: <i>Section 5.2.2 - Colorimetry</i>)
VW 50190 2017-11	Vehicle Interior Equipment Components; Measurement-Based Evaluation of Color and Gloss Level; Visual Evaluation of Chrome Surfaces (here: <i>Color</i>)

3.2 Determination of gloss value * (flexible scope Category III)**

DIN EN ISO 2813 2015-02	Paints and varnishes - Determination of gloss value at 20°, 60° and 85°
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Flexible scope does not apply for the following specifications:

AA-0101 2018-02	Reflectometer Value (Gloss)
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<p>MBN 10494-4 2021-02</p>	<p>Paint Test Methods - Part 4: Optical Tests (here: <i>Section 5.1 - Gloss measurement using a reflectometer</i>)</p>
<p>VW 50190 2017-11</p>	<p>Vehicle Interior Equipment Components; Measurement-Based Evaluation of Color and Gloss Level; Visual Evaluation of Chrome Surfaces (here: <i>Gloss level</i>)</p>

3.3 Visual evaluation of textiles and coatings * (flexible scope Category I)

<p>DIN EN 20105-A02 1994-10</p>	<p>Textiles - Tests for colour fastness - Part A02: Grey scale for assessing change in colour</p>
<p>DIN EN ISO 105-A03 2020-02</p>	<p>Textiles - Tests for colour fastness - Part A03: Grey scale for assessing staining</p>
<p>DIN EN ISO 3668 2020-05</p>	<p>Paints and varnishes - Visual comparison of colour of paints</p>
<p>DIN EN ISO 4628-1 2016-07</p>	<p>Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system</p>
<p>DIN EN ISO 4628-2 2016-07</p>	<p>Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering</p>
<p>DIN EN ISO 4628-3 2016-07</p>	<p>Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting</p>
<p>DIN EN ISO 4628-4 2016-07</p>	<p>Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 4: Assessment of degree of cracking</p>
<p>DIN EN ISO 4628-5 2016-07</p>	<p>Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 5: Assessment of degree of flaking</p>

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DIN EN ISO 4628-6 2011-12	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 6: Assessment of degree of chalking by tape method
DIN EN ISO 4628-7 2016-07	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 7: Assessment of degree of chalking by velvet method
DIN EN ISO 4628-8 2013-03	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 8: Assessment of degree of delamination and corrosion around a scribe or other artificial defect
DIN EN ISO 4628-10 2016-07	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 10: Assessment of degree of filiform corrosion

Flexible scope does not apply for the following specifications:

MBN 10494-4 2021-02	Paint Test Methods - Part 4: Optical Tests (here: <i>Section 5.2.1 - Visual color assessment</i>)
MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 7 - Evaluation of corrosion and coating damage</i>)
PV 3965 2006-04	Decorative Surfaces on and in the Vehicle; Visual Color Matching according to DIN EN ISO 3668
VW 50190 2017-11	Vehicle Interior Equipment Components; Measurement-Based Evaluation of Color and Gloss Level; Visual Evaluation of Chrome Surfaces (here: <i>Visual evaluation of chrome surfaces</i>)

4 Determination of resistance of coatings to liquids by chemical resistance tests * (flexible scope Category I)

DIN EN ISO 2812-1 2018-03	Paints and varnishes - Determination of resistance to liquids - Part 1: Immersion in liquids other than water
DIN EN ISO 2812-2 2019-03	Paints and varnishes - Determination of resistance to liquids - Part 2: Water immersion method

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DIN EN ISO 2812-3 2019-08	Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium
DIN EN ISO 2812-4 2018-03	Paints and varnishes - Determination of resistance to liquids - Part 4: Spotting methods
DIN EN ISO 2812-5 2018-12	Paints and varnishes - Determination of resistance to liquids - Part 5: Temperature-gradient oven method

Flexible scope does not apply for the following specifications:

AA-0053 2017-04	Sun cream resistance of painted parts in the interior
AA-0055 2018-05	Chemical resistance test of surfaces
DBL 5416 2017-08	Parts manufactured from Thermoplastics for Paneling, Housings and Functional Parts for External Applications (here: <i>Annex A.2, Table 23, Test no. A.2.8 – Hot-water test</i>)
MBN 10494-7 2016-03	Paint Test Methods - Part 7: Resistance to Chemicals, Test Mixtures and Test Concentrates
PR 557 2020-05	Resistance of unpainted thermoplastic surfaces in interior and exterior area to media
PV 4.6.3 2009-10	Paints and Varnishes; Resistance to Chemicals of Automotive Top Coats, Gradient Oven Method
PV 3964 2008-02	Surfaces in the Passenger Compartment; Testing of Cream Resistance
FLTM BI 104-01 2003-01	Water immersion test for painted parts and panels
VCS 1026,81779 2012-11	Paints and enamels - Chemical resistance

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5 Environmental simulation tests

5.1 Weathering tests

5.1.1 Methods of exposure of textiles, plastics and coatings to xenon arc lamps * (flexible scope Category I)

DIN EN ISO 105-B02 2014-11	Textiles - Tests for colour fastness - Part B02: Colour fastness to artificial light: Xenon arc fading lamp test
DIN EN ISO 105-B06 2020-12	Textiles - Tests for colour fastness - Part B06: Colour fastness and ageing to artificial light at high temperatures: Xenon arc fading lamp test
DIN EN ISO 4892-2 2013-06	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps
DIN EN ISO 16474-2 2014-03	Paints and varnishes - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps
SAE J 2527 2017-09	Performance Based Standard for Accelerated Exposure of Automotive Exterior Materials Using a Controlled Irradiance Xenon-Arc Apparatus

Flexible scope does not apply for the following specifications:

DBL 5425 2020-07	Coating / Paintwork of Plastic Parts in the Vehicle Exterior (here: <i>Section 8.3 - Artificial weathering</i>)
DBL 5555 2014-04	Finished Parts and Semi-Finished Products Made of Organic Polymer Materials - General Conditions and Test Methods (here: <i>Section 23.2 - Artificial weathering</i>)
MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.9.1 - SAE J 2527 (CAM 180) and 5.9.3 - Hot light aging</i>)
MBN 55555-5 2018-08	Non-metallic materials, material systems and semi-finished products - Part 5: Weathering Tests (here: <i>Section 5.4 - Artificial weathering in a humid or dry-hot climate</i>)
PV 1303 2015-11	Non-Metallic Materials; Xenon Arc Light Aging of Vehicle Interior Components

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PV 1306 2008-02	Non-Metallic Materials; Exposure Test for Determining the Tackiness of Polypropylene Parts
PV 1502 2016-11	Clear Coat for Dual-Layer Metallic Paint Coatings; Testing for Resistance to Cracking
PV 3929 2018-03	Non-Metallic Materials; Weathering in Dry, Hot Climate (Exterior)
PV 3930 2017-11	Non-Metallic Materials; Weathering in Humid, Hot Climate (Exterior)
PSA D27 1389 2007-07	Paint coatings - Rubbers and plastics - Artificial ageing by Weather-Ometer

5.1.2 Methods of exposure of plastics and coatings to fluorescent UV lamps * (flexible scope Category I)

DIN EN 927-6 2018-12	Paints and varnishes - Coating materials and coating systems for exterior wood - Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water
DIN EN ISO 4892-3 2016-10	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps
DIN EN ISO 16474-3 2021-04	Paints and varnishes - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps

Flexible scope does not apply for the following specification:

MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.9.2 - QUV</i>)
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5.2 Water condensation tests

5.2.1 Condensation exposure for determination of resistance of coatings to humidity * (flexible scope Category I)

DIN EN ISO 6270-1 2018-04	Paints and varnishes - Determination of resistance to humidity – Part 1: Condensation (single-sided exposure)
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DIN EN ISO 6270-2 2018-04	Paints and varnishes - Determination of resistance to humidity – Part 2: Condensation (in-cabinet exposure with heated water reservoir)
ISO 11503 1995-07	Paints and varnishes - Determination of resistance to humidity (intermittent condensation)

Flexible scope does not apply for the following specification:

MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.2 - Condensed water constant atmosphere, CH</i>)
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5.2.2 Condensation exposure for determination of resistance of coatings to humid atmospheres containing sulfur dioxide * (flexible scope Category I)

DIN 50018 2013-05	Testing in a saturated atmosphere in the presence of sulfur dioxide
DIN EN ISO 3231 1998-02	Paints and varnishes - Determination of resistance to humid atmospheres containing sulfur dioxide
DIN EN ISO 6988 1997-03	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture

5.3 Corrosion tests

5.3.1 Salt spray test for assessment of the corrosion resistance of metallic materials, with or without corrosion protection * (flexible scope Category I)

DIN EN ISO 9227 2017-07	Corrosion tests in artificial atmospheres - Salt spray tests
ASTM B 117 2019	Standard Practice for Operating Salt Spray (Fog) Apparatus

Flexible scope does not apply for the following specification:

MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.3 - Salt spray test, NSS and Section 5.4 - CASS test</i>)
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5.3.2 Corrosion cycle tests for determination of resistance of coatings to cyclic corrosion conditions * (flexible scope Category I)

DIN 55635 2019-05	Paints and varnishes - Cyclic corrosion testing of coating systems on materials and components in automotive construction
DIN EN ISO 11997-1 2018-01	Paints and varnishes - Determination of resistance to cyclic corrosion conditions - Part 1: Wet (salt fog)/dry/humid
DIN EN ISO 11997-2 2013-12	Paints and varnishes - Determination of resistance to cyclic corrosion conditions - Part 2: Wet (salt fog)/dry/humidity/UV light
ASTM G 85 2019	Standard Practice for Modified Salt Spray (Fog) Testing

Flexible scope does not apply for the following specifications:

MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.5 - Corrosion cycle tests</i>)
PV 1078 2019-11	Subframe ASSY and Chassis Parts in Steel Construction; Intensified Corrosion and Temperature Cycle Test (VKTT)
PV 1207 2018-10	Aluminum Add-on Parts; Corrosion Test (Environmental Corrosion Cycle Test)
PV 1208 2016-02	Heat Exchangers Made of Aluminum Alloys; Corrosion Test (SWAAT)
PV 1209 2016-02	Add-On Parts/Hang-On Parts with a Zinc or Zinc Alloy Coating and Aluminum Add-On Parts/Hang-On Parts (e.g., Heat Exchanger, Refrigerant Line); Corrosion Test (Environmental Corrosion Cycle Test)
PV 1210 2016-02	Body and Add-On Parts/Hang-On Parts; Corrosion Test

5.4 Temperature and climate tests for determination of resistance of coatings * (flexible scope Category I)

DIN EN 3665 1997-08	Aerospace series - Test methods for paints and varnishes - Filiform corrosion resistance test on aluminium alloys
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DIN EN ISO 4623-1 2019-01	Paints and varnishes - Determination of resistance to filiform corrosion - Part 1: Steel substrates
DIN EN ISO 4623-2 2016-12	Paints and varnishes - Determination of resistance to filiform corrosion - Part 2: Aluminium substrates

Flexible scope does not apply for the following specifications:

AA-0326 2017-12	SCAB Corrosion Test
DBL 5416 2017-08	Parts manufactured from Thermoplastics for Paneling, Housings and Functional Parts for External Applications (here: <i>Section 12.7 - Thermal cycle test</i>)
DBS 918 020 2013-03	Labelling of railway vehicles - Self-adhesive films for exterior lettering and outdoor advertising (here: <i>Section 6.2.3 - Temperature resistance</i>)
DBS 918 021 2015-07	Labelling of railway vehicles - Self-adhesive films for interior lettering (here: <i>Section 5.2.4 - Adhesion by temperature resistance and resistance to thermal shock</i>)
MBN 10494-6 2021-03	Paint Test Methods - Part 6: Climatic Tests (here: <i>Section 5.6 - Filiform test on painted aluminium parts as per Daimler</i>)
PR 303.6 2020-06	Alternating climate test for trim parts
PV 1200 2019-10	Vehicle Parts; Testing the Environmental Cycle Resistance (80 °C/ -40 °C)
PV 2005 2000-09	Vehicle Parts; Testing of Resistance to Environmental Cycle Test
PV 7201 2019-06	Alloy Wheel; Testing of Filiform Corrosion Properties
TL 211 2019-11	Coating of Plastic Exterior Parts; Requirements (here: <i>Section 6, Table 1, No. 4.2 - Heat aging in a forced-air oven</i>)
TL 212 2016-12	Oxide Coatings on Aluminum Parts; Surface Protection Requirements (here: <i>Section 3.7 - Thermal stability</i>)

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TL 226 2020-10	Paintwork on Materials of Vehicle Interior Equipment; Requirements (here: <i>Section 3.6, Table 2, No. 4.1 - Heat resistance in a drying oven and No. 5.3 - Hydrolysis aging</i>)
VW 96379 2006-04	Exterior; Testing of Add-on Parts; Climatic Test
VW 96380 2015-07	Corrosion Test; Modified Environmental Cycle Test
CETP 00.00-L-467 2009-03	Global laboratory accelerated cyclic corrosion test
STD4445 2014-08	Accelerated corrosion test, version II (ACT2)
VCS 1027,1449 2014-02	Cyclic atmospheric corrosion test with salt load - Accelerated corrosion test, version II - ACT II

6 Flexural tests, tensile tests and impact tests

6.1 Determination of flexural properties of plastics by flexural tests * (flexible scope Category I)

DIN EN ISO 178 2019-08	Plastics - Determination of flexural properties
DIN EN ISO 14125 2011-05	Fibre-reinforced plastic composites - Determination of flexural properties (here: <i>Method A - Three-point flexure</i>)

Flexible scope does not apply for the following specifications:

PV 3919 2010-01	Nonwoven Fabric Sound Insulation; Determining Compression Stress
PV 3954 2009-07	Floor Covering ASSYs; Determining Bending Stiffness
TL 52711 2021-03	Underbody Applications; Engine Encapsulations, Transmission Encapsulations, and c _d - Enhancing Underbody Panels Made of LWRT (here: <i>Section 6.6 - Bending stiffness</i>)

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6.2 Determination of tensile properties of rubber, adhesive bonds, textiles, plastics and metallic materials by tensile tests * (flexible scope Category I)

DIN 53504 2017-03	Testing of rubber - Determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test
DIN EN 1464 2010-06	Adhesives - Determination of peel resistance of adhesive bonds - Floating roller method
DIN EN 29073-3 1992-08	Textiles; test method for nonwovens; part 3: determination of tensile strength and elongation
DIN EN ISO 527-1 2019-12	Plastics - Determination of tensile properties - Part 1: General principles
DIN EN ISO 527-2 2012-06	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics
DIN EN ISO 527-3 2019-02	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets
DIN EN ISO 527-4 1997-07	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and anisotropic fibre-reinforced plastic composites
DIN EN ISO 527-5 2010-01	Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites

Flexible scope does not apply for the following specifications:

MBN 10494-8 2016-03	Paint Test Methods - Part 8: Adhesion of Adhesives on the Coating (here: <i>Section 5.5 - Balance weight adhesion to light-alloy wheel surfaces</i>)
MBN 10526 2018-07	Test Methods for Self-Adhesive Components (here: <i>Section 6.3 - Peeling resistance</i>)
PV 2034 2020-09	Non-Metallic Planar Materials; Floating Roller Peel Test
PV 3973 2010-11	Elastomer O-Rings; Determining Tensile Strength, Elongation at Tear and Stress Values in the Tensile Test

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TL 239 Alloy Wheels; Surface Protection Requirements
2019-07 (here: *Section 3.5, Table 3, No. 5 - Adhesion of wheel weights*)

6.3 Determination of impact properties of plastics by impact tests * (flexible scope Category I)

DIN 53435 Testing of plastics - Bending test and impact test on dynstat test
2018-09 specimens
(here: *Impact test*)

DIN EN ISO 179-1 Plastics - Determination of Charpy impact properties - Part 1: Non-
2010-11 instrumented impact test

7 Determination of burning behaviour of interior materials in motor vehicles by burning tests * (flexible scope Category I)

DIN 75200 Determination of burning behaviour of interior materials in motor
1980-09 vehicles

ISO 3795 Road vehicles, and tractors and machinery for agriculture and
1989-10 forestry - Determination of burning behaviour of interior materials

Flexible scope does not apply for the following specifications:

DBL 5307 Flame retardant properties - Interior trim parts - Requirements and
2019-07 test specifications

GS 97038 Determination of burning behavior to automotive interior trim
2020-02 materials

PV 3357 Sound Insulation Materials; Behavior on Flame Exposure with a
2019-04 Burner; Surface and Edge Flame Exposure Test

TL 1010 Materials for Vehicle Interiors; Burning Behavior, Material
2008-01 Requirements

BSDM0500 Flammability test method for interior materials
2020-12

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8 Testing and assessing the ease of decontamination of radioactively contaminated surfaces * (flexible scope Category I)

DIN 25415 2012-11	Radioactively contaminated surfaces - Method for testing and assessing the ease of decontamination
ISO 8690 2020-08	Measurement of radioactivity - Gamma ray and beta emitting radionuclides - Test method to assess the ease of decontamination of surface materials

9 Chemical material analysis

9.1 Methods for physical-chemical analysis * (flexible scope Category III)**

DIN EN ISO 2811-1 2016-08	Paints and varnishes - Determination of density - Part 1: Pycnometer method
DIN EN ISO 3251 2019-09	Paints, varnishes and plastics - Determination of non-volatile-matter content
DIN EN ISO 11890-1 2007-09	Paints and varnishes - Determination of volatile organic compound (VOC) content - Part 1: Difference method

9.2 Determination of volatile organic compounds in plastics and coating materials by gas-chromatography * (flexible scope Category I)

DIN EN 13130-4 2004-08	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 4: Determination of 1,3-butadiene in plastics
DIN EN ISO 11890-2 2020-12	Paints and varnishes - Determination of volatile organic compounds (VOC) and/or semi volatile organic compounds (SVOC) content - Part 2: Gas-chromatographic method
DIN EN ISO 17895 2005-06	Paints and varnishes - Determination of the volatile organic compound content of low-VOC emulsion paints (in-can VOC)

9.3 Infrared spectroscopy * (flexible scope Category III)**

DIN EN 1767 1999-09	Products and systems for the protection and repair of concrete structures - Test methods - Infrared analysis
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DIN 51453 2004-10	Testing of lubricants - Determination of oxidation and nitration of used motor oils - Infrared spectrometric method
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9.4 Determination of formaldehyde concentration

VdL-RL 03 2018-02	Guideline for the determination of the formaldehyde concentration in water-dilutable paints and varnishes, and polymer dispersions (here: <i>Acetylacetone method for determining the free in-can formaldehyde concentration</i>)
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10 Analysis of emissions

10.1 Determination of the fogging characteristics of trim materials in the interior of automobiles using a fogging device * (flexible scope Category I)

DIN 75201 2011-11	Determination of the fogging characteristics of trim materials in the interior of automobiles
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ISO 6452 2021-05	Rubber- or plastics-coated fabrics - Determination of fogging characteristics of trim materials in the interior of automobiles
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SAE J 1756 2006-08	Determination of the Fogging Characteristics of Interior Automotive Materials
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Flexible scope does not apply for the following specifications:

PV 3015 2019-03	Fogging Behavior of Materials Used in the Vehicle Interior; Gravimetric Determination of Condensable Components
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BSDM0503 2021-05	Fogging test method for non-metallic materials (here: <i>Method B</i>)
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GMW3235 2016-08	Fogging characteristics of trim materials
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TSM0503G 2019-04	Fogging test method for non-metallic materials (here: <i>Method B</i>)
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Volvo STD 420-0003 2014-06	Organic materials - Fogging
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10.2 Determination of the odour characteristics * (flexible scope Category III)**

SAE J 1351 2015-07	Hot Odor Test for Insulation Materials
VDA 270 2018-06	Determination of the odour characteristics of trim materials in motor vehicles

Flexible scope does not apply for the following specifications:

GS 97014-4 2012-11	Emissions measurement with air exchange in a testing chamber; Determination of the olfactory behavior
PV 3900 2019-04	Vehicle Interior Components; Odor Test
BSDM0505 2019-09	Smell quality of non-metallic materials
FLTM BO 131-03 2017-05	Interior odor test
GMW3205 2016-08	Test method for determining the resistance to odor propagation of interior materials
MS 300-34 2002-10	Test method of odor for interior parts
Renault D49 3001 / - - E 2015-01	Odour emissions, internal equipment parts - Intensity evaluation and global odour characterization
TPJLR.52.458 2014-05	Determination and assessment of odour from interior trim materials, components and assemblies
TSM0505G 2019-02	Smell quality of non-metallic materials
VCS 1027,2729 2016-11	Organic materials - Odour of trim materials in vehicles

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10.3 Determination of aldehyde and ketone emissions * (flexible scope Category III)**

DIN ISO 16000-3 2013-01	Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method
VDI 3862 Blatt 3 2000-12	Gaseous emission measurement - Measurement of aliphatic and aromatic aldehydes and ketones by DNPH method - Cartridges method
VDA 275 1994-07	Moulded composites and fleeces for vehicles - Determination of formaldehyde release - Test procedure called modified flask method

Flexible scope does not apply for the following specifications:

AA-0061 2018-09	Formaldehyde emission from nonmetallic materials and components, determined by HPLC
PV 3925 2021-01	Polymer Materials; Determination of Emissions of Formaldehyde; Test Procedure called modified Flask Method
FLTM BZ 156-01 2011-07	Determination of formaldehyde, aldehyde, and ketone emissions from non-metallic components, parts and materials in the vehicle interior
GMW15635 2020-02	Determination of aldehyde and ketone emissions from interior materials
Renault D40 3004 / - - A 2011-07	Analysis of formaldehyde and other carbonyl compounds
VCS 1027,2739 2004-03	Determination of formaldehyde emission from components in vehicle interiors

10.4 Determination of the emission of volatile organic compounds from vehicle interior parts and materials, building products and furnishing using the test chamber method * (flexible scope Category I)

DIN ISO 12219-4 2013-12	Interior air of road vehicles - Part 4: Method for the determination of the emissions of volatile organic compounds from vehicle interior parts and materials - Small chamber method
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DIN EN ISO 16000-9 2008-04	Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method
VDA 276 2005-12	Determination of organic substances as emitted from automotive interior products using a 1 m ³ test cabinet (deviation: 0,25 m ³ test chamber)

Flexible scope does not apply for the following specifications:

GS 97014-3 2014-04	Emissions measurement with air exchange in a testing chamber; Determination of volatile, organic emissions from components, semi-finished products and materials
PV 3942 2016-08	Emission Behavior of Parts, Components, and Semi-Finished Products for the Vehicle Interior; Testing Using the DUT Chamber Method (deviation: 0,25 m ³ test chamber)

**10.5 Determination of volatile organic compounds and phthalates with gas chromatography/
10.6 mass spectrometry * (flexible scope Category I)**

DIN ISO 16000-6 2012-11	Indoor air - Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA [®] sorbent, thermal desorption and gas chromatography using MS or MS-FID
DIN ISO 16000-33 2017-12	Indoor air - Part 33: Determination of phthalates with gas chromatography/mass spectrometry (GC/MS)

10.7 Determination of emission of organic compounds * (flexible scope Category III)**

VDA 277 1995-01	Non-metallic materials in automotive interior trim - Determination of emission of organic compounds
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Flexible scope does not apply for the following specifications:

PV 3341 1995-03	Non-Metallic Materials in Automotive Interior Trim; Determination of Emission of Organic Compounds
FLTM BZ 157-01 2011-03	Determination of organic emissions from non-metallic materials in vehicle interiors by Headspace Gas Chromatography

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SAE	Society of Automotive Engineers
STD	Scania Standard
TL	VW Group Standard
TPJLR	Jaguar Cars & Land Rover - Engineering Test Procedure
VCS	Volvo Car Corporation Standard
VDA	German Association of the Automotive Industry
VdL	German Paint and Printing Ink Association
VW	Volkswagen