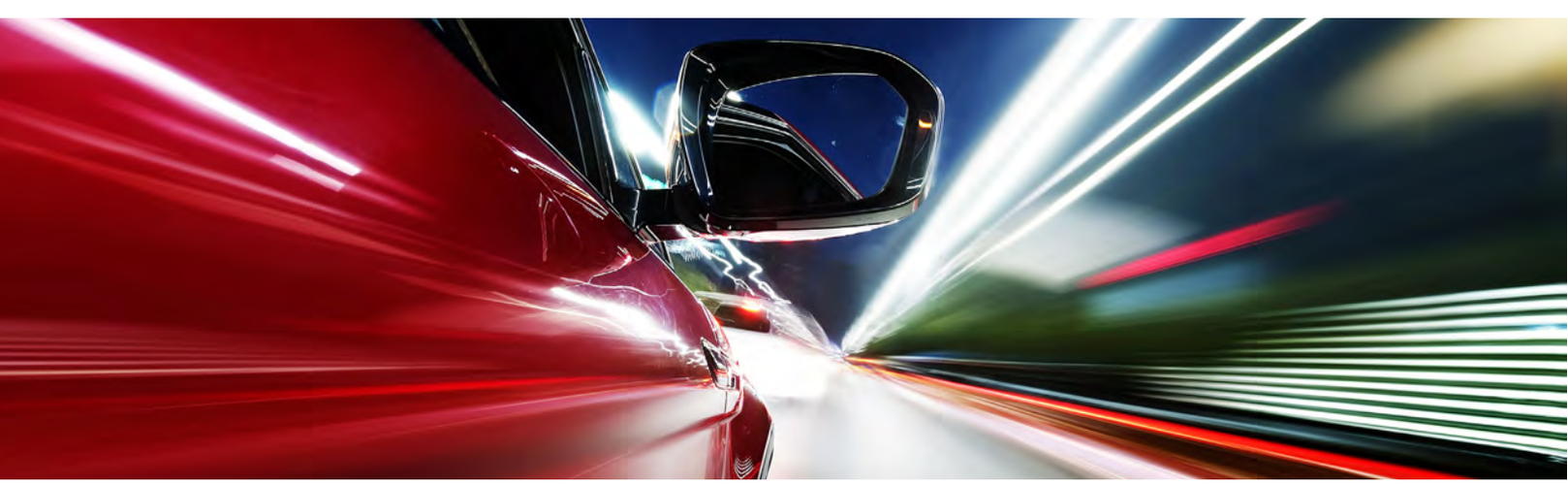
KUZ
Kunststoff-Zentrum Leipzig

Accredited test laboratory

Test methods for
plastics and plastic products

Test methods for the
automotive sector



DAkkS
Deutsche
Akkreditierungsstelle
D-PL-11280-01-00

Durch die DAkkS nach DIN EN ISO/IEC 17025:2018 akkreditiertes Prüflaboratorium.
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren.

www.kuz-leipzig.de

As a non-profit industry-related research institution, the Kunststoff-Zentrum in Leipzig gGmbH (KUZ) is an experienced partner for application-oriented research and development, for services related to practical plastics technology issues and for in-service training in plastics technology.

PLASTIC TESTING LABORATORY – competent and independent

The KUZ test laboratory is an independent testing facility. Objectivity and loyalty towards our customers are the basis of our activities. We have been testing plastics and plastic products according to national and international test specifications for more than 50 years. Since 1991 we have the status of an accredited testing laboratory. With the current reaccreditation by DAkkS in 2021, the testing laboratory has again proven its competence according to DIN EN ISO/IEC 17025:2005 for testing the properties of plastics and plastic products (molded parts, semi-finished products, films, foams or welded composites).

Our range of services includes mechanical, thermal, rheological, electrical, optical, metric and climatic tests. In addition to standardized tests, special tests are also carried out. The testing laboratory is equipped with modern testing devices. Qualified and experienced staff as well as the company's know-how in plastics technology are available to solve your testing problems.
Please contact us. We will take time for your questions, even if you do not find your delivery specification in our selected standard examples.

Production of test specimens for the tests

The test specimens are manufactured either by machining according to DIN EN ISO 2818: 1997-06 or by injection molding based on DIN EN ISO 294-2:2006-5, 294-3:2003-12, taking into account the relevant dimensional standards.

We carry out the injection of the test specimens with controlled modern injection molding machines, by means of interchangeable frame molds according to DIN EN ISO 294-1, -2, -3 and special molds. The production data acquisition for the test injection molding is given.

The removal of test specimens from molded parts and semi-finished products can also be carried out by mechanical processing (cutting, milling, punching) according to DIN EN ISO 2818.

DAMAGE ANALYSIS – objective and interdisciplinary

Damage analyses serve to clarify the causes of damage and to reveal the damage mechanisms. They are a prerequisite for damage prevention and make decisive contributions to improving product quality. We have many years of experience in the field of damage analysis of plastic parts and are happy to support you.

We take a systematic approach to damage analysis in accordance with VDI Guideline 3822. Close cooperation between experts with practical experience in the fields of design, processing, testing/ characterization and materials science is the key to success. Modern equipment is available for experimental investigations to obtain information on the damage process.

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Mechanical properties

DIN EN ISO 527, 1-4	Plastics - Determination of tensile properties
DIN EN ISO 604	Plastics - Determination of compressive properties
DIN EN ISO 178	Plastics - Determination of flexural properties
DIN EN ISO 179-1	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test
DIN EN ISO 180	Plastics - Determination of Izod impact strength
DIN EN ISO 2039-1	Plastics - Determination of hardness - Part 1: Ball indentation method
DIN 53435	Testing of plastics - Bending test and impact test on Dynstat test specimens
DIN EN ISO 8256	Plastics - Determination of tensile-impact strength
ASTM D256 - 10	Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
DIN ISO 815-1	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures
DIN EN ISO 1798	Flexible cellular polymeric materials - Determination of tensile strength and elongation at break
DIN EN ISO 1856	Flexible cellular polymeric materials - Determination of compression set
DIN EN ISO 3386-1	Polymeric materials, cellular flexible - Determination of stress-strain characteristics in compression - Part 1: Low-density materials
DIN EN ISO 3386-2	Polymeric materials, cellular flexible - Determination of stress-strain characteristics in compression - Part 2: High-density materials
DIN 53363	Testing of plastic films - Tear test using trapezoidal test specimen with incision
DIN ISO 34-1	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces
DIN EN 1464	Adhesives - Determination of peel resistance of adhesive bonds - Floating roller method
DIN EN 12230	Surfaces for sports areas - Test method for the determination of tensile properties of synthetic sports surfaces
DIN 18035-7	Sports grounds - Part 7: Synthetic turf areas, section 6.9: Determination of the transverse tensile strength
DIN ISO 48	Rubber, vulcanized or thermoplastic - Determination of hardness, method M: between 10 IRHD and 100 IRHD

Mechanical properties (continued)

DIN 7619-1	Rubber, vulcanized or thermoplastic - Determination of indentation hardness - Part 1: Durometer method (Shore hardness)
DIN EN ISO 868	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)

Metric and gravimetric properties

DIN ISO 4593	Plastics - Film and sheeting - Determination of thickness by mechanical scanning
DIN EN ISO 1463	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method
DIN EN ISO 1183-1	Plastics - Methods for determining the density of non-cellular plastics - Part 1, method A: Immersion method
DIN EN ISO 845	Cellular plastics and rubbers - Determination of apparent density
DIN EN ISO 60	Plastics - Determination of apparent density of material that can be poured from a specified funnel
DIN EN ISO 3451-1	Plastics - Determination of ash - Part 1: General methods, Method A: direct glowing
DIN EN ISO 1172-A	Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods (method A)
DIN EN ISO 62	Plastics - Determination of water absorption
DIN EN ISO 15512	Plastics - Determination of water content, method: B2

Color and gloss

DIN EN ISO 11664-4	Colorimetry - Part 4: CIE 1976 L*a*b* color space
DIN 6167	Description of yellowness of near-white or near-colorless materials
ASTM D1003 – 07	Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics, Procedure B (Spectrophotometer)
DIN EN ISO 2813	Paints and varnishes - Determination of gloss value at 20°, 60° and 85°
DIN EN ISO 3668	Paints and varnishes - Visual comparison of color of paints
ISO 105-A02	Textiles; tests for color fastness; part A02: grey scale for assessing change in color
ISO 105-A03	Textiles - Tests for color fastness - Part A03: Grey scale for assessing staining
DIN EN ISO 4628-1	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
DIN EN ISO 4628-2	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

Surface properties

DIN EN ISO 105-X12	Textiles - Tests for color fastness - Part X12: Color fastness to rubbing
DIN EN ISO 2409	Paints and varnishes - Cross-cut test
DIN 55654	Scratch test using a linear abrasion tester (crockmeter)
DIN 55656	Paints and varnishes - Scratch test using a hardness pen
DIN EN ISO 175	Plastics - Methods of test for the determination of the effects of immersion in liquid chemicals
DIN EN ISO 2812-1 ISO 2812-1	Paints and varnishes - Determination of resistance to liquids - Part 1: Immersion in liquids other than water
DIN EN ISO 2812-3 ISO 2812-3	Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium
DIN EN ISO 2812-4 ISO 2812-4	Paints and varnishes - Determination of resistance to liquids - Part 4: Spotting methods
DIN EN 60068-2-70	Environmental testing - Part 2: Tests - Test Xb: Abrasion of markings and letterings caused by rubbing of fingers and hands
DIN EN ISO 22088-3	Plastics - Determination of resistance to environmental stress cracking (ESC) - Part 3: Bent strip method

Rheological properties

DIN EN ISO 1133, 1-2	Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics
DIN EN ISO 1628-2	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 2: Vinyl chloride polymers
ISO 1628-4	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	Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 5: Thermoplastic polyester (TP) homopolymers and copolymers
ISO 1628-6	Plastics; determination of viscosity number and limiting viscosity number - Part 6: methyl methacrylate polymers
DIN EN ISO 307	Plastics - Polyamides - Determination of viscosity number
DIN EN ISO 6721-7	Plastics - Determination of dynamic mechanical properties - Part 7: Torsional vibration - Non-resonance method
ISO 6721-10	Plastics - Determination of dynamic mechanical properties - Part 10: Complex shear viscosity using a parallel-plate oscillatory rheometer
ISO 6721-11	Plastics - Determination of dynamic mechanical properties - Part 11: Glass transition temperature

Electrical properties

DIN EN 60243-1 VDE 0303-21	Electric strength of insulating materials - Test methods - Part 1: Tests at power frequencies
DIN EN 60243-2 VDE 0303-22	Electric strength of insulating materials - Test methods - Part 2: Additional requirements for tests using direct voltage
DIN EN 60112 VDE 0303-11	Method for the determination of the proof and the comparative tracking indices of solid insulating materials
DIN EN 62631-3-1 VDE 0307-3-1	Dielectric and resistive properties of solid insulating materials - Part 3-1: Determination of resistive properties (DC methods) - Volume resistance and volume resistivity - General method
DIN EN 62631-3-2 VDE 0307-3-2	Dielectric and resistive properties of solid insulating materials - Part 3-2: Determination of resistive properties (DC Methods) - Surface resistance and surface resistivity
DIN EN 62631-3-3 VDE 0307-3-3	Dielectric and resistive properties of solid insulating materials - Part 3-3: Determination of resistive properties (DC Methods) - Insulation resistance
DIN EN 60695-2-10 VDE 0471-2-10	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure
DIN EN 60695-2-11 VDE 0471-2-11	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end products
DIN EN 60695-2-12 VDE 0471-2-12	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials
DIN EN 60695-2-13 VDE 0471-2-13	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials

Thermal properties

DIN EN ISO 11357-2	Plastics - Differential scanning calorimetry (DSC) - Part 2: Determination of glass transition temperature and step height
DIN EN ISO 11357-3	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization
DIN EN ISO 11357-4	Plastics - Differential scanning calorimetry (DSC) - Part 4: Determination of specific heat capacity
DIN EN ISO 11357-6	Plastics - Differential scanning calorimetry (DSC) - Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)
DIN EN ISO 11358-1	Plastics - Thermogravimetry (TG) of polymers - Part 1: General principles
DIN 51006	Thermal analysis - Thermogravimetry - Principles
ISO 11359-2	Plastics - Thermomechanical analysis (TMA) - Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature
DIN EN ISO 75-2	Plastics - Determination of temperature of deflection under load - Part 2: Plastics and ebonite
DIN EN ISO 75-3	Plastics - Determination of temperature of deflection under load - Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics
DIN EN ISO 306	Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)
DIN EN ISO 2507 -2	Thermoplastics pipes and fittings - Vicat softening temperature - Part 2: Test conditions for unplasticized poly(vinyl chloride) (PVC-U) or chlorinated poly(vinyl chloride) (PVC-C) pipes and fittings and for high impact resistance poly(vinyl chloride) (PVC-HI)
DIN EN ISO 2507-3	Thermoplastics pipes and fittings - Vicat softening temperature - Part 3: Test conditions for acrylonitrile/butadiene/styrene (ABS) and acrylonitrile/styrene/acrylic ester (ASA) pipes and fittings
DIN 53497	Testing of plastics - Hot storage test on mouldings made of thermoplastic moulding materials without external mechanical stressing

Environmental simulation

DIN EN 60068-2-1 VDE-0468-2-1	Environmental testing - Part 2-1: Tests - Test A: Cold
DIN-EN-60068-2-2 VDE-0468-2-2	Environmental testing - Part 2-2: Tests - Test B: Dry heat
DIN EN 60068-2-5	Environmental testing - Part 2-5: Tests - Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering
DIN EN 60068-2-14 VDE-0468-2-14	Environmental testing - Part 2-14: Tests - Test N: Change of temperature
DIN-EN-60068-2-38 VDE-0468-2-38	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test
DIN EN ISO 6270-2	Paints and varnishes - Determination of resistance to humidity - Part 2: Condensation (in-cabinet exposure with heated water reservoir)
DIN 75220	Ageing of automotive components in solar simulation units
DIN EN ISO 4892-2	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps
VDA 75202	Determination of colour fastness of interior materials in motor vehicles, xenon arc lamp test
DIN EN ISO 105 B06	Textiles - Tests for colour fastness - Part B06: Colour fastness and ageing to artificial light at high temperatures: Xenon arc fading lamp test

Burning behavior

UL 94	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
DIN EN 60695-11-10 VDE 0471-11-10	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods
DIN 75200	Determination of burning behavior of interior materials in motor vehicles
ISO 3795	Road vehicles, and tractors and machinery for agriculture and forestry - Determination of burning behavior of interior materials
FMVSS 302	Flammability of interior materials
UN/ECE Regulation No. 118	Uniform technical prescriptions concerning the burning behavior and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles, Appendix 6
GB 8410	Flammability of Automotive Interior Materials
PTL 8501	Interior Burning behavior: Requirements and testing
DBL 5307.10	Flame retardancy of interior components
GS 97038	Determination of the burning behavior of materials used in automotive interiors
GMW 3232	Test Method for Determining the Flammability of Interior Trim Materials
TL 1010	Materials for Vehicle Interiors: Burning Behavior, Material Requirements
DIN EN ISO 11925-2	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
DIN 53438-2	Testing of combustible materials; response to ignition by a small flame; edge ignition
DIN 53438-3	Testing of combustible materials; response to ignition by a small flame; surface ignition
DIN 4102-1	Fire behavior of building materials and building components - Part 1: Building materials; concepts, requirements and tests, Building material class 2

TESTING PROCEDURES for the automotive sector (selection)

Based on established knowledge in the field of plastics testing and many years of experience with customers from the automotive industry, we carry out tests on plastic parts from the automotive industry in accordance with various regulations of the automotive manufacturers.

Our focus is:

- Testing of material properties
- Testing of surfaces and coatings
- Environmental simulation and climate testing
- Testing of combustion behavior

Selected test specifications of some manufacturers are summarized below.
Further tests are available on request.

BMW Group	
AA 0053	Sun cream resistance of painted parts in the interior
AA 0101	Reflectometer Value (Gloss)
AA 0180	Cross hatch testing
AA 0403	Visual Color Comparison and Metamerism Test
AA P 308	Hydrolysis Test
GS 97034, 1 - 9	Surface test on automotive interior material
GS 97038	Determination of the burning behavior of materials used in automotive interiors
PA P 230	Aging resistance test
PA P 231	Temperature cycling test
PR 303.4	Climate change test for equipment parts
TL 9138681.6	Functional coating of gear knob badges Scratch resistant coating

Fiat

MS 50184	Requirements for Nonmetals Environmental Tests
MS 50432	Determination of the Stress-Cracking Resistance of Plastic Materials
MS 55231	Polycarbonate Plastics for Molding and Extrusion
MS 55231/1	Alloys of Polycarbonate + ABS Molding and Extrusion ABS
MS 7-G2000	Determining the Resistance to Combustion of the Non-Metallic Materials for Parts Inside Vehicle Passenger Compartment
MS 9.55253	Miscellaneous Plastic Components (Thermoplastic or thermosetting)

General Motors

GMW 3232	Test Method for Determining the Flammability of Interior Trim Materials
GM 9070 P	Procedure for testing flammability of materials
GM 9505 P	Automotive Environmental Cycles
GM 9900 P	Cleaning /Solvent Resistance of Automotive Components During Normal Customer Use
GME 00002	General requirements for colored plastic exterior parts
GME 00004	General requirements for colored plastic interior parts
GME 60261 GMI 60261	Determination of the burning behavior of materials used in automotive interiors
GMI 60266	Detergent resistance of plastics, organic coatings and self-adhesive films
GME 60267	Determination of the impact strength of plastic parts
GME 60280	Scratch resistance and writing effect Surface properties of plastics
GME 60292	Assessment of light fastness and light resistance

Jaguar Land Rover Limited

STJLR 51.5242	Paint and Lacquer Performance - Interior
TPJLR 52.154	Determination of Plastic Component Resistance to Fuel
TPJLR 52.155	Fluid Spotting of Automotive Trim
TPJLR 52.351	Resistance to Humidity - General
TPJLR 52.352	Resistance to Heat Ageing - General
TPJLR 52.353	Accelerated Environmental Ageing

Mercedes-Benz

DBL 5306	Delivery Specification, General Technical Terms of Delivery and Test Methods for Interior Fittings Materials and Similar Products
DBL 5307.10	Flame retardancy of interior components
DBL 5403	Delivery specification: Functional parts made of thermoplastics in the engine and aggregate area
DBL 5404	Delivery specification: Parts made of thermoplastics for the direct and indirect area of the passenger compartment, for engine cooling, air intake, passenger compartment heating, ventilation, trims and housings
DBL 5410	Delivery specification: Parts made of thermoplastics for operating devices, bearing and fastening elements, spacers
DBL 5416	Delivery specification: Parts made of thermoplastics for cladding, housing and functional parts for outdoor applications
DBL 5471	Delivery specification: trim and molded upholstery parts for vehicle interiors (composite parts)
DBL 5485	Delivery specification: Direct-laminated trim parts for vehicle interiors (back-pressing/back-injection technology)
DBL 5490	Delivery specification plastic parts from recyclate
DBL 5555	Delivery specification: Finished and semi-finished parts made of organic polymer materials General conditions and test methods
DBL 5562	Delivery Specification Thermoplastic Elastomers (TPE)
DBL 7384	Delivery specification: Coating of plastic parts in the vehicle interior
DBL 9202	Delivery specification for decorative parts in the passenger compartment

Porsche

PTL 4010	Polypropylen
PTL 4084	Decorative steering wheel shrouds Material requirements and component tests
PTL 4410	Plastics and adhesives Volume resistivity Requirements and tests
PTL 5522	Painting of non-metallic materials for interiors
PTL 5524	Painting Body shell parts made of flexible plastics Requirements and tests Painting
PTL 8140	Interior General requirements for components and semi-finished materials, requirements and tests
PTL 8501	Interior Burning behavior: Requirements and testing

Renault / PSA Peugeot - Citroën

D15 1343	Coloured Materials Visual Comparison of Colours in a Light Camber
D45 1010	Materials and Parts in Polymer Passenger Compartment Inner and Outer Colour Fastness to Rubbing
D45 1333	Materials Interior to Passenger Compartment Horizontal Combustibility
D47 03 005	Paint Coatings and Foils by Dipping for Internal Plastic Parts
D47 1309	Materials and Parts for Automotive Equipment Ageing According to a given Climatic Cycle
D47 1431	Materials and Parts in the Passenger Compartment Appearance Behaviour to Artificial Light at High and Mean Temperatures

Volkswagen

PV 1200	Vehicle parts Climate change resistance test (+80/-40)°C
PV 1303	Non-metallic materials Exposure testing for vehicle interior components
PV 1306	Non-metallic materials Exposure test for determination of stickiness on PP plastics
PV 2005	Vehicle parts testing of the climate change resistance
PV 3015	Non-metallic interior materials
PV 3906	Non-metallic sheet materials Testing of abrasion behavior
PV 3929	Non-metallic materials Weathering in dry-hot climate
PV 3930	Non-metallic materials Weathering in warm and humid climates
PV 3964	Surfaces in the vehicle interior Testing of cream resistance
PV 3966	PP components White fracture behavior (ball drop test)
TL 226	Paintwork on Materials of Vehicle Interior Equipment
TL 227	Single-Layer Paint Coating of Zinc-Coated Metal Surfaces
TL 534	Polyamide 6, finished parts Material requirements
TL 1010	Materials for Vehicle Interiors: Burning Behavior, Material Requirements
TL 52035	PP/EPDM/PE polymer blend: finished parts Material requirements
TL 52062	PA 6.6, glass fiber reinforced: for finished parts Material requirements
TL 52221	PP, high impact strength Material requirements
TL 52231	ABS and PC Polymer Blends: Material Requirements
TL 52277	POM, impact resistant, modified: Material requirements
TL 52283	Polypropylene, elastomer modified, talc or mineral modified: Material requirements
TL 52288	Polyamide, mineral-reinforced, finished parts Material requirements
TL 52311	ASA graft polymer Material requirements
TL 52440	A 6 glass fiber reinforced for finished parts: Material requirements
TL 52452	Polypropylene with increased crystallinity: Material requirements
TL 52476	POM Finished parts Material requirements

Volkswagen

TL 52631	Bumpers, bumper covers, spoilers Scope of testing for material data sheets
TL 52636	POM finished parts (not in vehicle interior) Material requirements
TL 52649	Wheel housing shell Test scope for material data sheets
TL 52660	Underbody applications - moto-shielding capsule, stone chip protection, CW cladding in thermoplastic design
TL 52671	PMMA high gloss screens for exterior use Material requirements
VW 2.8.1	Elastomers - Material requirements and tests
VW 44045	Polypropylene, finished parts Material requirements
VW 50123	Thermoplastic elastomers Quality requirements
VW 50125	Polyamide 6 Finished parts of the vehicle interior: Material requirements
VW 50127	Polyamide 66, finished parts of the vehicle interior: material requirements
VW 50133	PA66 for finished parts outside the vehicle interior - Material requirements
VW 50134	PA6 for finished parts outside the vehicle interior - Material requirements
VW 50136	PBT for finished parts outside the vehicle interior - Material requirements
VW 50190	Components of the vehicle interior: Measurement assessment of color and gloss

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Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung

Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

Kunststoff-Zentrum in Leipzig gemeinnützige Gesellschaft mbH
Bereich Kunststoffprüfung
Erich-Zeigner-Allee 44, 04229 Leipzig

die Kompetenz nach DIN EN ISO/IEC 17025:2018 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

mechanische, thermische, rheologische, elektrische und optische Prüfungen an Kunststoffen und Kunststofferzeugnissen (Formteile, Halbzeuge, Folien, Schaumstoffe und Schweißverbunde) unter Einbeziehung thermischer und medialer Beanspruchungen sowie Brennverhalten und Umweltsimulationen an polymeren Werkstoffen

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 11.11.2021 mit der Akkreditierungsnummer D-PL-11280-01. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 13 Seiten.

Registrierungsnummer der Urkunde: **D-PL-11280-01-00**

Berlin, 11.11.2021

Im Auftrag Dipl.-Ing. (FH) Ralf Egner
Abteilungsleiter

Die Urkunde samt Urkundenanlage gibt den Stand zum Zeitpunkt des Ausstellungsdatums wieder. Der jeweils aktuelle Stand des Geltungsbereiches der Akkreditierung ist der Datenbank akkreditierter Stellen der Deutschen Akkreditierungsstelle GmbH (DAkkS) zu entnehmen. https://www.dakks.de/content/datenbank-akkreditierter-stellen

Siehe Hinweise auf der Rückseite

KUZ
Kunststoff-Zentrum Leipzig

Your contact persons

Janine Dubiel
Head of the accredited testing laboratory
Tel.: +49 341 4941 811
E-Mail: dubiel@kuz-leipzig.de

Catalog request:
Lucia Schuster
Tel.: +49 341 4941 801
E-Mail: schuster@kuz-leipzig.de

Kunststoff-Zentrum in Leipzig gGmbH
Erich-Zeigner-Allee 44
04229 Leipzig

Postfach 31 07 32
04211 Leipzig

www.kuz-leipzig.de

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