


TRANSLATION OF THE SCOPE OF ACCREDITATION OF THE TESTING LABORATORY No. AB 128

Issued by:
POLISH CENTRE FOR ACCREDITATION
01-382 Warszawa, Szczotkarska 42

Issue No. 22, Date of issue 6th June 2023

NOTE: This scope of accreditation is BOSMAL's translation. In the event of discrepancies, only the original PCA document is binding. You can find it at <http://www.pca.gov.pl> and [here](#).

 AB 128	Name and address: <p style="text-align: center;">BOSMAL AUTOMOTIVE RESEARCH & DEVELOPMENT INSTITUTE LTD TESTING LABORATORY Sarni Stok 93 43-300 Bielsko-Biała</p>
Identification code	Field of testing and item:
A/6; A/8; A/26	Acoustic and vibration tests of electrical products and equipment, construction products and equipment, vehicles
C/4; C/8; C/9; C/10; C/12; C/13; C/21; C/23; C/26; C/45; C/46;	Chemical tests of chemical products, construction products and materials, air, fuels, glass and ceramics, construction products and materials, machinery and devices, plastic and rubber products, textiles and leather, vehicles, paints and varnishes, lubricating materials
E/6; E/26, E34, E/35, E/54 F/6, F/54	Electric and electronic tests of electrical and electronic products and vehicles Electromagnetic compatibility (EMC) tests of electrical, and electronic products and equipment
G/6; G/8; G/13; G/21; G/23; G/45; G/54	Tests concerning environmental engineering of electrical and electronic equipment, construction products and materials, machinery and devices, plastic and rubber products, textiles and leather, paints and varnishes
H/6; H/21; H/23	Fire tests of electrical products and equipment, plastic and rubber products, textiles and leather

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*) The identification code according to the Annex to document DAB-07, available at PCA website www.pca.gov.pl

This document is translation of an annex to accreditation certificate No AB 128 of 06.06.2023.

Scope of accreditation is an annex to accreditation certificate No. AB 128 of 17.07.2019.

Accreditation cycle from 21.06.2023 to 17.07.2027


The status of accreditation and validity of the scope of accreditation can be confirmed at PCA website www.pca.gov.pl

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Identification code	Field of testing and item:
J/6; J/8; J/21; J/23; J/26; J/45	Mechanical tests, metallographic tests of construction products and materials, plastic and rubber products, textiles and leather, paints and varnishes and vehicles
L/6; L/8; L/17; L/21	Non-destructive testing of metal products and materials, -electrical products and equipment, construction products and materials, other products, plastic and rubber products
N/6; N/8; N/10; N/12; N/13; N/19; N/21; N/23; N/26; N/35; N/45; N/46; N/54	Tests of physical properties of electrical and electronic equipment, construction products and materials, glass and ceramics, plastic and rubber products, personal protection equipment, fuels, textiles and leather, paints and varnishes, lubricating materials and vehicles
Q/21; Q/23	Sensory tests of plastic and rubber products, textiles
Conformity assessment within to the Act of 20 June 1997 – Law on Road Traffic	

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Materials Testing Department (BM) Sarni Stok 93, 43-300 Bielsko-Biała		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Rubber and plastic products	Material identification Infrared spectrometric method (IR)	BOSMAL/I-7-41/06
	Hardness: Sh A, Sh D Range (30 – 90) °Sh Shore method	PN-EN ISO 868:2005 met. A and D ISO 48-4:2018 met. A and D ISO 7619-1:2010 met. A and D DIN 53505:2000 met. A and D
Rubber products	Hardness: Range: (30 – 100) IRHD	ISO 48-2:2018 met. M (mikro)
	Strength properties: - tensile strength (up to 5 kN)	ISO 37:2017
	- tear strength (up to 5 kN)	ISO 34-1:2022
	- compression set temperature range: 23°C - 250°C	ISO 815-1:2019
	Resistance to ageing: - in air - in liquids - in atmosphere with ozone (static method) 25 pphm to 200 pphm	ISO 188:2011 ISO 1817:2022 ISO 1431-1:2022
	Density Gravimetric method	ISO 2781:2018
Plastics, Plastic products	Density Immersion method Range: 0.9 – 2 g/cm ³	PN-EN ISO 1183-1:2019-05 met. A
	Rockwell hardness Scales: HRR, HRL, HRM, HRE Rockwell method	PN-EN ISO 2039-2:2002
	Karl-Fischer water content Range: (0.05 – 1.5) % Coulometric titration method	PN-EN ISO 15512:2019-07 met. B2
	Melt mass-flow rate and melt volume-flow rate (MFR and MVR) Range: (2.16 – 21.6) kg maximum temperature: 300°C Plastometer method	PN-EN ISO 1133-1:2022-12 ASTM D1238-23
Plastics	Impact properties Charpy method Range: max. impact energy 7.5 J Type 1 specimens: - notched: notch type A (1eA) - unnotched (1eU)	PN-EN ISO 179-1:2010
	Impact properties Izod method Range: max. impact energy 5.5 J Specimens: - notched: notch type A - unnotched	PN-EN ISO 180:2020-05
	Hardness Ball indentation method	PN-EN ISO 2039-1:2004
	Tensile strength Range up to 30 kN	PN-EN ISO 527-2:2012
	Flexural strength Flexural modulus Deformation at maximum stress Range up to 30 kN Flexural test	PN-EN ISO 178:2019-06
	Water absorption	PN-EN ISO 62:2008 p. 6.3, 6.4, 6.6

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Thermoplastic materials	Heat resistance (HDT) Deflection temperature Range up to 300°C Method A (1.80 MPa)	PN-EN ISO 75-1:2020-09 PN-EN ISO 75-2:2013-06
Thermoplastic materials, thermoplastic products	Heat resistance Vicat softening temperature (up to 300°C)	PN-EN ISO 306:2014-02
Plastics, plastic products Rubber, rubber products	Melting point and glass transition temperature Range: up to 400°C Differential scanning calorimetry method (DSC)	BOSMAL/I-7-87/03 ISO 11357-2:2020 PN-EN ISO 11357-3:2018-06
Plastics, plastic products Rubber, rubber products	Decomposition temperature and rate of polymers Measurement of volatile substances, additives and/or fillers quantity in polymer Range: (25 – 1000) °C Thermogravimetric analysis (TGA)	PN-EN ISO 11358-1:2022-09 PV 3927:2022-04 ASTM D6370-99 (2019)
Products made of: metal, plastic, rubber, paint-coated, galvanic-coated and uncoated	Gloss value at 20°, 60° and 85° Photometric method	PN-EN ISO 2813:2014-11
Products made of: metal, plastic, textiles, nonwoven materials, foams, rubber, paint-coated, galvanic-coated and uncoated, Parts / units of machines and devices	Resistance to solar radiation and weather conditions using laboratory light sources: - UV fluorescent lamp - arc xenon lamp (F-O, XW-O) - metal halide lamp (MHG) Light exposure method	PN-EN ISO 4892-2:2013-06 PN-EN ISO 4892-2:2013-06 /A1:2022-01 PN-EN ISO 4892-3:2016-04 PN-EN ISO 16474-1:2014-02 PN-EN ISO 16474-2:2014-02 PN-EN ISO 16474-3:2021-06 PN-EN ISO 105-B02:2014-11 PN-EN ISO 105-B04:1999 GMW 14162:2016 met. A, B, D ASTM G154-23 PN-EN ISO 105-B06:2020-12 light exposure conditions No. 3 and 5 PN-EN IEC 60068-2-5:2018-08 DIN 75220:1992 PV 1303:2021-05 PV 1306:2021-10 PV 3930:2023-01 PV 3929:2023-01 SAE J2527:2017-09 SAE J2412:2015-08 VDA 230-219:2011-10
Products made of: metal, plastic, textiles, nonwoven materials, foams, rubber, paint-coated, galvanic-coated and uncoated	Colour change according to the gray scale Visual assessment	PN-EN 20105-A02:1996 ISO 105-A02:1993 PN-EN ISO 105-A03:2020-03
	Resistance to humidity	PN-EN ISO 6270-1:2018-02 PN-EN ISO 6270-2:2018-02 PN-EN 60068-2-78:2013-11
	Resistance to climatic conditions	PN-EN 60068-2-14:2009, Test Nb
	Resistance to impact (Pistol Test) Dynamic method with a ball impact Range: (1 – 90) N	ISO 4532:1991
	Determination of stone-chip (grit) resistance of coatings Multi-impact and single impact method	PN-EN ISO 20567-1:2017-03 DIN 55996-1:2001-04

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Plastics, products made of plastics, textiles, nonwovens, foams, paint-coated, galvanic-coated and uncoated Rubber, rubber products	Flammability Burning rate Range: (0 – 300) mm/min Horizontal burning method	PN-ISO 3795:1996 UN ECE Regulation No. 118, Appendix 6 DIN 75200:1980-09 FMVSS 302:1999 TL 1010:2008-01 PSA D45 1333:2020-01 GB 8410: 2006 GS 97038:2020-02
	Fogging Range: (0 – 199) gloss units Gloss method Range: (0.1 – 5.0) mg Gravimetric method	DIN 75201:2011-11 SAE J1756:2006-08 PV 3015: 2019-03
	Formaldehyde emission Range: (0.3 – 25) mg/kg Spectrophotometric method	VDA 275 (07.1994) PV 3925:2021-01 VCS 1027,2739 (03.2004) FLTM BZ 156-01:2011 Part A
	Formaldehyde emission Range: (0.3 – 60) mg/kg High-performance liquid chromatography method with diode-array detection (HPLC-DAD)	PV 3925:2021-01
Plastics, products made of plastics, textiles, nonwovens, foams, paint-coated, galvanic-coated and uncoated Rubber, rubber products	Determination of organic compounds emission (TVOC) from materials Range: TVOC: (0.1 - 3700) µgC/g individual emission value: (0.1 - 120) µgC/g Gas chromatography method with headspace analysis, flame ionization detection and mass spectrometry detection HS-GC-MS/FID method	BOSMAL/I-7-64/04 VDA 277 (01.1995) FLTM BZ 157-01:2011 PV 3341:1995-03 VCS 1027,2749 (03.2004)
	Identification of organic compounds GC-MS method with the use of NIST 14 mass spectral library	BOSMAL/I-7-64/04
	Determination of organic compounds emission (VOC, FOG) from materials Range: VOC: (0.1 - 15500) µg/g individual VOC value: (0.1 - 300) µg/g FOG: (0.7 - 45000) µg/g individual FOG value: (0.7 - 300) µg/g Gas chromatography method with thermodesorption, flame ionization detection and mass spectrometry detection (TD-GC-MS/FID) method	BOSMAL/I-7-64/04 VDA 278 (10.2011) VDA 278 (05.2016)
	Ash content Range: (0.010 – 75.00) % Gravimetric method	PN-EN ISO 3451-1:2019-04 met. A PN-EN ISO 1172:2002 met. A
Plastics, products made of plastics, textiles, nonwovens, foams and leather Rubber, rubber products	Volatile organic compounds emission (VOC) Chamber method Determination of total volatile organic compounds (VOC) concentration Range: (0.1 – 30) ppm Flame-ionisation detection method (FID)	ISO 12219-4:2013 ISO 12219-6:2017 GS 97014-3:2022-02 VDA 276-1:2005 PV 3942:2021-11

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Plastics, products made of plastics, textiles, nonwovens, foams and leather Rubber, rubber products	Emission of carbonyl compounds in dynamic and static conditions (environmental chamber) Range: Formaldehyde (2.0 - 4800) µg/m ³ Acetaldehyde (2.0 - 4800) µg/m ³ Acetone (1.0 - 4800) µg/m ³ Isovaleraldehyde (2.0 - 4800) µg/m ³ Propionaldehyde (2.0 - 4800) µg/m ³ m,p-Tolualdehyde (2.0 - 4800) µg/m ³ o-Tolualdehyde (3.0 - 4800) µg/m ³ Valeraldehyde (2.0 - 4800) µg/m ³ Benzaldehyde (2.0 - 4800) µg/m ³ 2-Butanone (2.0 - 4800) µg/m ³ Butyraldehyde (3.0 - 4800) µg/m ³ 2,5-Dimethylbenzaldehyde (2.0 - 4800) µg/m ³ Cyclohexanone (3.0 - 4800) µg/m ³ Hexanal (2.0 - 4800) µg/m ³ Heptanal (2.0 - 4800) µg/m ³ Octanal (3.0 - 4800) µg/m ³ Nonanal (2.0 - 4800) µg/m ³ Decanal (2.0 - 4800) µg/m ³ Metacroleine (2.0 - 4800) µg/m ³ High performance liquid chromatography method with diode-array detection (HPLC-DAD)	ISO 16000-3:2022 BOSMAL/I-7-89/03
	Emission of carbonyl compounds in dynamic and static conditions (environmental chamber) Range: Crotonaldehyde (2.0 - 4800) µg/m ³ High-performance liquid chromatography method with diode-array detection (HPLC-DAD)	BOSMAL/I-7-89/03
	Determination of volatile organic compounds (VOC) emitted in environmental chamber Range: - total (0.050 – 10.0) mg/m ³ - individual (0.8 - 500) µg/m ³ Gas chromatography with thermal desorption flame-ionization detection and mass spectrometry (TD-GC-FID-MS)	ISO 16000-6:2021
	Identification of organic compounds Gas chromatography method with thermal desorption and mass spectrometry (TD-GC-MS) with use of NIST14 mass spectra library	ISO 16000-6:2021

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Products made of: metal, plastic, paint-coated, galvanic-coated and uncoated	Lead and Cadmium content Range: Pb (0.002 – 0.1) % Cd (0.001 – 0.1) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
Galvanic coatings and paint coatings on metal and plastic (metal products and plastic products)	Corrosion resistance to variable environmental salt-humid conditions	ASTM G85-19, met. A3 PN-EN ISO 11997-1:2017-10, cycle B VDA 621-415:1982
	Resistance to corrosion in salt spray NSS method	PN-EN ISO 9227:2023-02 ASTM B117-19 DIN 50021:1988-06 FIAT 50180 (12.2007)
	Resistance to corrosion in salt spray AASS method	PN-EN ISO 9227:2023-02 DIN 50021:1988-06 FIAT 50180 (12.2007)
	Resistance to corrosion in salt spray CASS method	PN-EN ISO 9227:2023-02 DIN 50021:1988-06 FIAT 50180 (12.2007)
	Corrosion resistance to sulphur dioxide with general condensation of moisture	PN-EN ISO 22479:2022-12
	Adhesion by: Cross-cut method	PN-EN ISO 2409:2021-03
	Adhesion by: Pull-off method	PN-EN ISO 4624:2016-05, met. B
Galvanic coatings and paint coatings on metal (metal products)	Coating thickness Range: (0 – 1000) µm Magnetic method	PN-EN ISO 2178:2016-06 PN-EN ISO 2361:1998 PN-EN ISO 2808:2020-01, met. 7B2
	Coating thickness Range: (10 – 1000) µm Eddy-current method	PN-EN ISO 2808:2020-01, met. 7C
Galvanic coatings and paint coatings on metal and plastic (metal products and plastic products)	Coating thickness Microscopy method	PN-EN ISO 1463:2021-10 PN-EN ISO 2808:2020-01, met. 6A
	Resistance to liquids	PN-EN ISO 2812-1:2018-01
	Flexibility Bend test on mandrel method (type 2)	PN-EN ISO 1519:2012
	Hardness Pencil method	PN-EN ISO 15184:2020-07
	Impact (deformation) resistance Falling weight method	PN-EN ISO 6272-1:2011
	Abrasion resistance Taber method	ISO 15082:2016 PN-EN ISO 7784-2:2016-05
	Resistance to variable temperature	PN-EN 60068-2-14:2009 Test Na
	Cream resistance	PV 3964:2008-02
	Scratch and mar resistance	PV 3952:2021-03 PV 3974:2022-05 LP 463DD-18-02:2018-08
	Products made of plastic, coated and uncoated, textiles, nonwovens	Colour fastness to rubbing Linear rubbing method (crockmeter)
Abrasion (wear) resistance Rotary abrasion test method		DIN 53863-2:1979 PV 3908:2020-04

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Metal products	HBW hardness Range: 70 – 200 HBW1/10 70 – 200 HBW2.5/62.5 100 – 450 HBW2.5/187.5 100 – 200 HBW5/250 100 – 450 HBW5/750 100 – 450 HBW10/3000 Brinell method	PN-EN ISO 6506-1:2014-12
	Rockwell hardness Range: 50 – 88 HRA 20 – 100 HRB 20 – 70 HRC Rockwell method	PN-EN ISO 6508-1:2016-10
	HV hardness Range: 100 – 750 HV5 100 – 750 HV10 100 – 750 HV30 Vickers method	PN-EN ISO 6507-1:2018-05
	HV microhardness Range: 250 – 1000 HV0.05 100 – 1000 HV0.1 100 – 1000 HV0.3 50 – 1000 HV0.5 50 – 1000 HV1 Vickers method	PN-EN ISO 6507-1:2018-05
	Absorbed energy: KV ₂ and KU ₂ . Range: Initial energy of the pendulum hammer: 300 J Test temperature: - 23 ±5°C - reduced to -40°C Charpy pendulum impact test	PN-EN ISO 148-1:2017-02
	Mechanical properties: - yield strength, R _e - proof strength, plastic extension, R _p - tensile strength, R _m - ultimate elongation, A - reduction of area at fracture, Z Range: up to 150 kN Tensile test at room temperature	PN-EN ISO 6892-1:2020-05, met. A & B
	Grain size Reference patterns method Secant method Grain counting method Optical microscopy method	PN-EN ISO 643:2020-07 ASTM E112-13

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Metal products	Microstructure: Range: Microstructure of raw materials, cast materials, annealed materials, after heat treatment, after thermochemical treatment, after plastic forming Optical microscopy method	BOSMAL/I-7-44/06 PN-EN ISO 945-1:2019-09 PN-H-04661:1975 PN-H-04505:1966 ASTM A247-19
	Macrostructure: - surface defects, - internal defects Visual assessment method Optical microscopy method	BOSMAL/I-7-45/06
	Qualitative analysis of the chemical composition of microarea Range: from Z 13 to Z 82 Scanning electron microscopy method with EDS detection (SEM-EDS)	BOSMAL/I-7-110/01
Metal tube (in full section) (ϕ_{\max} = 50 mm)	Formability Flattening method	PN-EN ISO 8492:2014-02
	Formability Drift-expanding method	PN EN ISO 8493:2005
Fasteners: bolts, nuts (M5 up to M22), screws, washers	Surface discontinuities Visual assessment method	PN-EN 13018:2016-04
	Mechanical properties Tensile method	PN-EN ISO 898-1:2013-06, w/o p.9.13 PN-EN ISO 898-5:2012 w/o p.9.4 PN-EN 28839:1999 PN-EN ISO 6157-2:2006 PN-EN ISO 898-2:2012 PN-EN ISO 898-2:2012/Ap1:2016-05 PN-EN ISO 2320:2016-02, w/o p.9.3
Ferromagnetic metal products and materials Welded joints of ferromagnetic materials and products	Surface and subsurface discontinuities Magnetic-particle method (MT)	PN-EN ISO 9934-1:2017-02
		PN-EN ISO 17638:2017-01

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Sintered metal products	Apparent hardness	PN-EN ISO 4498:2010
	Range: 70 – 200 HBW1/10 70 – 200 HBW2.5/62.5 100 – 450 HBW2.5/187.5 100 – 200 HBW5/250 100 – 450 HBW5/750 100 – 450 HBW10/3000 Brinell method	PN-EN ISO 6506-1:2014-12
	Range: 50 – 88 HRA 20 – 100 HRB 20 – 70 HRC Rockwell method	PN-EN ISO 6508-1:2016-10
	Range: 100 – 750 HV5 100 – 750 HV10 100 – 750 HV30 Vickers method	PN-EN ISO 6507-1:2018-05
	Radial crushing strength Compression method	PN-EN ISO 2739:2012
	Density Gravimetric method	PN-EN ISO 2738:2001 p. 9.1
	Oil content Gravimetric method	PN-EN ISO 2738:2001 p. 9.2
	Open porosity Gravimetric method	PN-EN ISO 2738:2001 p. 9.3

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Iron alloys products	Inclusion content in steel Method A Optical microscopy	PN-H-04510:1964 ASTM E45-18a
	Depth of decarburization Metallographic method Hardness profile method	PN-EN ISO 3887:2018-03
	Effective depth of hardened layer after surface heat treatment Hardness profile method	PN-ISO 3754:1999
	Thickness of surface-hardened layer Hardness profile method	PN-EN ISO 18203:2022-09 w/o p.8.2
	Carbon and sulfur content Range: C (0.01 – 4.5) % S (0.005 – 0.6) % High temperature combustion with IR detection method	PN-EN ISO 15350:2010
	Nitrogen content Range: (0.005 – 0.5) % High temperature combustion with TC detection method	PN-EN ISO 10720:2009
	Content of: Mn, Si, P, Cr, Ni, Mo, Co, Al, Cu, Pb, Ti, Nb, V, Sn Range: Mn (0.002 – 4.0) % Si (0.030 – 3.5) % P (0.010 – 1.0) % Cr (0.002 – 25.0) % Ni (0.002 – 12.0) % Mo (0.010 – 10.0) % Co (0.005 – 10.0) % Al (0.0050 – 10.0) % Cu (0.0050 – 6.0) % Pb (0.10 – 0.5) % Ti (0.010 – 1.5) % Nb (0.010 – 2.0) % V (0.010 – 2.0) % Sn (0.010 – 0.40) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
Iron alloys products	Content of: Mn, Si, P, Cr, Ni, Cu, W, V, Al, Ti, Mo, Nb, Co, Sn Range: Mn (0.020 – 12.0) % Si (0.10 – 4.0) % P (0.020 – 1.0) % Cr (0.020 – 26.0) % Ni (0.010 – 22.0) % Cu (0.020 – 4.1) % W (0.020 – 18.0) % V (0.020 – 4.0) % Al (0.010 – 1.5) % Ti (0.005 – 1.5) % Mo (0.010 – 5.0) % Nb (0.010 – 2.5) % Co (0.20 – 12.5) % Sn (0.010 – 0.40) % Wavelength dispersive X-ray fluorescence spectrometry (WD-XRF) method	BOSMAL/I-7-90/02

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Copper alloys products	Content of: Be, Sn, Pb, Fe, Mn, Si, Al, Ni, P, Zn Range: Be: (0.010 – 2.5) % Sn (0.005 – 10) % Pb (0.005 – 12) % Fe (0.010 – 6.5) % Mn (0.010 – 6) % Si (0.030 – 5) % Al (0.005 – 6) % Ni (0.010 – 10) % P (0.010 – 0.5) % Zn (0.030 – 10) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
	Content of: P Range: (0.005 – 1.3) % Spectrophotometric method	PN-H-04740-11:1981 p.1 PN-H-04745-05:1981 p.1
	Average grain size Comparison method	PN-EN ISO 2624:1997
Aluminum and its alloys products	Content of: Si, Mg, Mn, Cu, Ni, Fe, Sn, Zn, Pb, Cr, Ti, Mo, V, Zr Range: Si (0.030 – 15) % Mg (0.010 – 12) % Mn (0.010 – 2.5) % Cu (0.005 – 6) % Ni (0.010 – 2.5) % Fe (0.20 – 2) % Sn (0.005 – 0.5) % Zn (0.010 – 5) % Pb (0.005 – 2.5) % Cr (0.005 – 0.6) % Ti (0.010 – 0.5) % Mo (0.050 – 1.0) % V (0.010 – 0.50) % Zr (0.010 – 0.80) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
Aluminum and its alloys products	Content of: Fe, Si, Cu, Zn, Mg, Mn, Ni, Pb, Sn, Cr, Ti, Zr Range: Fe (0.10 – 1.0) % Si (0.10 – 1.5) % Cu (0.010 – 5.0) % Zn (0.020 – 5.0) % Mg (0.010 – 2.0) % Mn (0.010 – 1.5) % Ni (0.010 – 1.5) % Pb (0.010 – 0.50) % Sn (0.010 – 0.20) % Cr (0.010 – 0.30) % Ti (0.010 – 0.25) % Zr (0.010 – 0.20) % Wavelength dispersive X-ray fluorescence spectrometry (WD-XRF) method	BOSMAL/I-7-90/02

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Zinc and its alloys products	Content of: Al, Cu, Fe, Mg, Pb, Sn Range: Al (0.10 – 10.0) % Cu (0.050 – 4.0) % Fe (0.010 – 1.0) % Mg (0.010 – 1.0) % Pb (0.001 – 0.1) % Sn (0.001 – 0.1) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
Automobile catalytic converter systems	Content of: Rh, Pd, Pt Range: Rh (0.001 – 0.10) % Pd (0.01 – 0.50) % Pt (0.01 – 0.50) % Wavelength dispersive X-ray fluorescence spectrometry (WD-XRF) method	BOSMAL/I-7-90/02
	Content Rh, Pd, Pt Range: Rh (0.001 – 1.0) % Pd (0.001 – 1.0) % Pt (0.001 – 1.0) % Inductively coupled plasma optical emission spectrometry (ICP-OES) method	BOSMAL/I-7-43/06
Car parts Parts / units of machines and devices Electric and electronic products Construction products Plastic and rubber products Particle traps	Determination of cleanliness Range: (0.001 – 10) g Gravimetric method	DIN 8964-1:1996-03 BOSMAL/I-7-48/04 VDA 19.1:2015 (w/o 8.3 i 8.4) ISO 16232:2018 (w/o 7.4.5, 7.4.6, 7.4.7, 7.5)
	Determination of cleanliness Range: Length (5 – 2500) µm Width (5 – 2500) µm Optical microscopy method	DIN 8964-1:1996-03 BOSMAL/I-7-48/04 VDA 19.1:2015 (w/o 8.3 i 8.4) VDA 19.2:2011 p. 5.0 Annex AG.1 and AG.2 ISO 16232:2018 (w/o 7.4.5, 7.4.6, 7.4.7, 7.5)
Lubricating materials: Engine oils, gear oils, industrial lubricating oils, used oils	Oil identification Infrared spectrometric method (IR)	BOSMAL/I-7-41/06
Lubricating materials: Engine oils, gear oils, industrial lubricating oils, used oils Liquid fuels Diesel fuel	Kinematic viscosity at 40°C Range: (2 – 200) mm ² /s Capillary method	PN-EN ISO 3104:2021-03 Procedure B

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Lubricating materials: Engine oils, gear oils, industrial lubricating oils, used oils	Kinematic viscosity at 100°C Range: (2 – 25) mm ² /s Capillary method	PN-EN ISO 3104:2021-03 Procedure B
	Acid number Range: (0.1 – 5.0) mg KOH/g Potentiometric titration	PN-C-04049:1988 ASTM D 664-17
	Alkali number Range: (1.0 – 15.0) mg KOH/g Potentiometric titration	PN-C-04049:1988 ASTM D 4739-17
	Fuel content Range: (0.5 – 12) % (m/m) Gas chromatography method with flame ionization detection GC-FID method	BOSMAL/I-7-86/01 ASTM D3524-14 (2020)
Liquid fuels: Unleaded gasoline, diesel fuel	Fractional composition Range: (30 – 360) °C Distillation at atmospheric pressure method	PN-EN ISO 3405:2019-05
	Density Range: (0.700 – 0.950) g/cm ³ Oscillating method	PN-EN ISO 12185:2002
Liquid fuels: Unleaded gasoline	Benzene content Range: (0.1 – 20) % (V/V) Infrared spectrometric method (IR)	PN-EN 238:2000 PN-EN 238:2000/A1:2008
Liquid fuels: Diesel fuel	Flash point Range: (55 – 200) °C Pensky-Martens method	PN-EN ISO 2719:2016-08 met. A PN-EN ISO 2719:2016-08 /A1:2021-06 met. A
Antifreeze fluid for cooling systems	Ash residue Gravimetric method	PN-C-40008-02:1992
	Boiling point Range: < 300°C Distillation method	PN-C-40008-03:1992
	pH value Range: 3 – 12 Potentiometric method	PN-C-40008-04:1992
	Alkali reserve Potentiometric titration method	PN-C-40008-05:1993

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Assemblies Testing Department (BS) Sarni Stok 93, 43-300 Bielsko-Biala		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Machinery parts, assemblies and components	Forces: rip, pull out, push in, open and close, switch on and off, operating, Range: ± 250 kN	BOSMAL/I-7-25/07
	Resistance to changeable mechanical load Range: - force ± 250 kN - linear displacement (0 – 250) mm - force moment (± 6000 Nm) - angle (0 – 90°)	BOSMAL/I-7-74/02
Machinery parts, assemblies and components and another construction components	Dependences between load: force, force moment and deformation such as: displacement, elongation, deflection, angle of rotation Range: - force ± 250 kN - force moment $\pm 5\ 650$ Nm - linear displacement (0 – 250) mm - angle of rotation (0 – 90°) Method: direct or indirect measurement	BOSMAL/I-7-100/02
Mechanical coupling components of combinations of vehicles	Resistance to dynamic load Static strength Testing on the test rig Range: Force ± 250 kN	UN ECE Regulation No. 55, Annex 6
Towing devices	Resistance to static load. Testing on the test rig Range: Force ± 250 kN	Regulation (EU) No. 2021/535, Annex VII part 2 p. 1.2 and 2
Shock absorbers	Damping forces by direct method during simulated operation Range: up to 25 kN	BOSMAL/I-7-51/03
Master cylinders of hydraulic braking systems of automotive vehicles and trailers	Hydraulic tightness by quantitative or qualitative method Range: up to 110 MPa	BOSMAL/I-7-18/06
	Resistance to multiple repeatable pressure cycles by simulated operation method Range: fluids up to 25 MPa	BOSMAL/I-7-23/07
Automotive vehicles and trailers brake pipes junctions	Hydraulic tightness by quantitative or qualitative method Range: up to 110 MPa	BOSMAL/I-7-18/06
Automotive vehicles and trailers braking cylinders	Hydraulic tightness by quantitative or qualitative method Range: up to 110 MPa	BOSMAL/I-7-18/06
	Resistance to multiple repeatable pressure cycles by simulated operation method Range: fluids up to 25 MPa	BOSMAL/I-7-23/07

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Automotive vehicles braking callipers	Hydraulic tightness by quantitative or qualitative method Range: up to 110 MPa	BOSMAL/I-7-18/06
	Resistance to multiple repeatable pressure cycles by simulated operation method Range: fluids up to 25 MPa	BOSMAL/I-7-23/07
Hydraulic braking systems metal pipes of automotive vehicles	Hydraulic tightness by quantitative or qualitative method Range: up to 110 MPa	BOSMAL/I-7-18/06
Pipes with upended ends, tapped holes, nipples and flexible pipes' ends	Minimal burst pressure by direct method Range: up to 110 MPa	BOSMAL/I-7-19/05
Other products subjected to hydraulic and pneumatic pressure	Hydraulic and pneumatic tightness by qualitative or quantitative method Range: Fluids up to 110 MPa Nitrogen up to 20 MPa Air (-0.095 – 1.5) MPa Direct method	BOSMAL/I-7-18/06
	Minimum burst pressure by direct measurement Range: Fluids up to 110 MPa Nitrogen up to 20 MPa Air up to 1.5 MPa Direct method	BOSMAL/I-7-19/05
	Resistance to multiple repeatable pressure cycles by simulated operation method Range: Fluids up to 25 MPa Air (-0.05 – 0.3) MPa Direct method	BOSMAL/I-7-23/07
Car gearboxes	Gears and bearings durability by simulated operation method	BOSMAL/I-7-17/04
Brake discs, brake drums and brake linings of disc and drum brakes in M1, M2, N1, N2, O1 and O2-category vehicles equipped with hydraulic or mechanical braking system	Friction properties Wearing Durability Load resistance Temperature resistance Dynamic friction Range: Braking torque: (0 – 5500) Nm Rotational speed: (0 – 2490) rpm Moment of inertia: (5 – 250) kgm ² Test method on an inertia dynamometer	UN ECE Regulation No. 90, Annex 3, 4, 5, 9 (w/o p. 3.1.1.1), Annex 11, 12 BOSMAL/I-7-91/01 BOSMAL/I-7-93/02 BOSMAL/I-7-94/02 UN ECE Regulation No. 13, Annex 4 p. 1.5.2, Annex 11 Appendix 2 p. 3.2.2; Annex 15, Annex 19 p. 4.4.3.1 – 4.4.3.4; p. 4.5.2 BOSMAL/I-7-96/02 BOSMAL/I-7-97/02 UNECE Regulation No. 13H Annex 3, Annex 7 BOSMAL/I-7-98/01 BOSMAL/I-7-99/01 TD-Prüfrichtlinie Stand 30.09.2003, Anhang 1 – pkt 3-4, Anhang 2 – pkt 3-4 (TD Test Guideline, status: 30.09.2003, Annex 1 – p.3-4, Annex 2 – p.3-4)

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Brake discs, brake drums and brake linings of disc and drum brakes in L1, L2, L3, L4 and L5-category vehicles	Friction properties Wearing Durability Load resistance Temperature resistance Dynamic friction Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	UN ECE Regulation No. 78 Annex 3 p. 3 and 7 UN ECE Regulation No. 90 Annex 7, Annex 14 TD-Prüfrichtlinie Stand 30.09.2003, Anhang 3 – pkt 4 (TD Test Guideline, status: 30.09.2003, Annex 3 – p.4)
Brake discs, brake drums and brake linings of disc and drum brakes including brake callipers in M1, M2, N1, N2, O1, O2-category vehicles, as well as L1,L2, L3, L4 and L5-category vehicles equipped with hydraulic or mechanical braking system	Friction properties Friction coefficient Performance indicators Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	ISO 11157:2005 ISO 15484:2008 (within ISO/PAS 22574:2007; ISO 26867:2009; SAE J2707:2021-06; SAE 2522:2014-09; JASO C-406:2000; SAE J2521:2013-04) ISO 26867:2009 JASO C406:2000 SAE J2784:2021-01 SAE J2522:2014-09 JASO C436:1999 JASO C442:1977 JASO C443:2009 ISO/PAS 22574:2007 ISO 7629:1987 SAE J2789:2018-09
	Friction properties Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	BOSMAL/I-7-103/01
	Wearing Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	SAE J2707:2021-06 JASO C456:1984 JASO C427:2009 SAE J2986:2019-01 ISO/PAS 22574:2007 ISO 7629:1987 SAE J2789:2018-09
	Wearing caused by temperature Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	SAE J2707:2021-06 ISO/PAS 22574:2007 ISO 7629:1987 SAE J2789:2018-09
	Durability Range: Braking torque: 0 – 5500 Nm Rotational speed: 0 – 2490 rpm Moment of inertia: 5 – 250 kgm ² Test method on an inertia dynamometer	JASO C419:2006 ISO/PAS 22574:2007 ISO 7629:1987 SAE J2789:2018-09

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Brake discs, brake drums and brake linings of disc and drum brakes including brake callipers in M1, M2, N1, N2, O1, O2-category vehicles, as well as L1, L2, L3, L4 and L5-category vehicles equipped with hydraulic or mechanical braking system	Temperature resistance Range: Braking torque: (0 – 5500) Nm Rotational speed: (0 – 2490) rpm Moment of inertia: (5 – 250) kgm ² Test method on an inertia dynamometer	SAE J2928:2018-05 ISO/PAS 22574:2007 ISO 7629:1987 SAE J2789:2018-09
	Noise emitted by brake	SAE J2521:2013-04 SAE J3002:2021-01
	Friction material temperature Range: Braking torque: (0 – 5500) Nm Rotational speed: (0 – 2490) rpm Moment of inertia: (5 – 250) kgm ² Test method on an inertia dynamometer	ISO/PAS 12158:2002
Brake callipers in M1, M2, N1 and N2-category vehicles, as well as L1, L2, L3, L4 and L5-category vehicles equipped with hydraulic or mechanical braking system	Resistance to pressure, temperature and braking moment	JASO C459:2010 (w/o JASO C421; JASO 441; JASO C448; JIS D1601; JIS K2233; JIS Z2371; ISO 4930; SAE J1603)
Mechanical coupling components of combinations of agricultural vehicles of categories T, R and S	Static and dynamic strength	UN ECE Regulation No. 147, Annex 6
Devices of vehicles of categories M2, M3, N2, N3 used to their protection against unauthorized use	Wear of safety devices acting on the steering system. Static torque strength	UN ECE Regulation No. 18, Annex 3
Devices of vehicles of categories M1, N1 used to their protection against unauthorized use	The wear resistance of the safety devices acting on the steering system. Tensile force and torque strength of the joint between the cylinder core and the cylinder casing	UN ECE Regulation No. 116, Annex 4, Annex 10
Locks and components of the door fastening of vehicles of categories M1 and N1	Resistance to load on hinged and sliding doors	UN ECE Regulation No. 11, p. 7
Seat belt anchorages for vehicles of categories M and N	Static strength of the belt anchorage	UN ECE Regulation No. 14, p. 6 and 7
ISOFIX anchorages systems, ISOFIX top tether anchorages and seating positions in vehicles of category M1	Static strength	UN ECE Regulation No. 145, p. 6
Front underrun protection devices (FUPD) of vehicles of categories N2 and N3	Loading of test points with a force proportional to the maximum weight of the vehicle. Measurement of the maximum horizontal and vertical displacement of test points	UN ECE Regulation No. 93, Annex 5
Electric drive systems in vehicles of categories M, N, L	Mechanical integrity Part-based bench test	UN ECE Regulation No. 100, Annex 9D

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Devices to protect the drive components of vehicles of categories T and C	Static strength Range: Force \pm 250 kN	Regulation (EU) No. 1322/2014 Annex XVII p. 4. ISO 4254-1: 2013 Annex C.
Devices to protect against other mechanical hazards of R-category vehicles	Static strength Hydraulic tightness Range: Force \pm 250 kN Pressure up to 110 MPa	Regulation (EU) No. 1322/2014 Annex XXIV p. 2.5.1 and 2.6.1.
Devices to prevent unauthorized use of vehicles of categories T and C	Functionality - operational forces Static strength Durability Range: Force \pm 250 kN Torque \pm 5500Nm	Regulation (EU) No. 2015/208 Annex XVIII p. 2.2. UN ECE Regulation No. 18 p. 5.8; p. 6.1.3 and 6.1.4.
Rear protective devices of R-category vehicles	Static strength Operational forces Range: Force \pm 250 kN	Regulation (EU) No. 2015/208 Annex XXVI p. 2.4.4 and 2.4.5.
Lateral protection for vehicles of category R3b and R4b	Static strength (stiffness) Range: force \pm 250 kN	Regulation (EU) No. 2015/208 Annex XXVII p. 2.8
Mechanical couplings of vehicles of categories T, C, R and S	Functionality Static strength Resistance to dynamic loads Force \pm 250 kN Torque \pm 5500Nm	Regulation (EU) No. 2015/208 Annex XXXIV p. 2.7 and p. 3.2 Appendix No. 2 and 3.

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Engine Research Department (BH) Sarni Stok 93, 43-300 Bielsko-Biala		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Combustion engines (max. power up to 560 kW)	Performance measurement on the engine test bench	UN ECE Regulation No. 85 Regulation (EU) 582/2011, with amendments up to Regulation (EU) No. 2022/2383
	Smoke measurement Range: (0 – 60) % Opacity method	UN ECE Regulation No. 24 Directive 72/306/EEC with amendments and corrections up to Directive 2005/21/EC
	Operating parameters: - torque: range (0 – 3000) Nm; tensometric method; - engine power: range (0 – 560) kW; calculated; - rotational speed: range (0 – 10000) rpm; impulse method; - fuel consumption: range (0 – 150) kg/h; gravimetric method; range (0 – 150) kg/h; Coriolis method; - air consumption (0 – 2400) kg/h; thermoanemometric method Concentration of: - CO, range: (0 – 10) %; NDIR method - CO ₂ , range: (0 – 20) %; NDIR method - N ₂ O, range: (0 – 1000) ppm NDIR method - NO, range: (0 – 2200) ppm CLD method - NO _x , range: (0 – 2200) ppm CLD method - THC, range: (0 – 1000 C3) ppm FID method - CH ₄ , range: (0 – 1000 C1) ppm FID method - NMHC, range: (0 – 1000 C1) ppm FID method - NH ₃ , range: (0 – 1000) ppm LDD method - PM - Particulate mass gravimetric method - PN - particulate number laser method Emission of: CO, CO ₂ , NO _x , THC, CH ₄ , N ₂ O, NH ₃ , NMHC, PM, PN (calculated)	UN ECE Regulation No. 49 Regulation (EC) 595/2009 with amendments up to Regulation (EU) No. 2019/1242 Regulation (EU) 582/2011 with amendments up to Regulation (EU) No. 2022/2383 Regulation (EU) 2017/2400 with amendments up to Regulation (EU) No. 2022/1379 Regulation (EU) 2016/1628 with additions and amendments up to Regulation (EU) No. 2022/2387 US EPA Regulations, Code of Federal Regulation (CFR) Title 40 – Protection of Environment, Part 1039, 1042, 1065, 1068. UN IMO Standards Tier I, II, III; Annex VI 2008, Edition 2017 Directive 94/25/EC, as amended by Directive 2003/44/EC, Regulation (EU) No. 1025/2012 and Directive 2013/53/EU Swiss Federal Ordinance on Air Pollution Control (OAPC) Appendix 4, Section 31, paragraph 1 and 2; Section 32, paragraph 2 SN 277206:2014-06 UN ECE Regulation No. 96 UN ECE Regulation No. 120 UN ECE Regulation No. 132 UN ECE Regulation No. 143
	Durability test, evaluation of the performance of the pollution control device, which is a spare part, in relation to emissions	Regulation (EU) No. 2016/1718
Electric drivetrains (max. power up to 560 kW)	Net power and the maximum power after 30 minutes on the engine test bench	UN ECE Regulation No. 85

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Replacement silencing systems of M1 and N1 motor vehicles	Silencing system back pressure measurement	UN ECE Regulation No. 59
Vehicles of categories M and N with SI and CI engines, including hybrid vehicles	<p>Emission of gaseous and particulate matter exhaust pollutants – ambient temperatures from 14°C to 30°C (Type 1 Test)</p> <p>Concentration: CO, CO₂, NO₂, NO_x, THC, CH₄, PM, PN:</p> <p>Range:</p> <ul style="list-style-type: none"> - CO, range: (0 – 12)% ; - CO₂, range: (0 – 20)% <p>NDIR method</p> <ul style="list-style-type: none"> - NO₂, NO_x, range: (0 – 1)% <p>CLD method</p> <ul style="list-style-type: none"> - THC, range: (0 – 5)% <p>FID method</p> <ul style="list-style-type: none"> - CH₄, range: (0 – 0.05)% <p>Chromatographic method GC-FID</p> <ul style="list-style-type: none"> - CH₄, range: (0 – 2.5)% <p>FID method</p> <ul style="list-style-type: none"> - O₂, range: (0 – 22)%, <p>PMD method</p> <ul style="list-style-type: none"> - PM – gravimetric method; - PN – laser method. <p>Emission: CO, CO₂, NO₂, NO_x, THC, CH₄, NMHC, PM, PN (calculated)</p>	<p>UN ECE Regulation No. 83 UN ECE Regulation No. 154 Regulation (EC) 715/2007 as amended up to Regulation (EU) No. 2018/858</p> <p>Regulation (EC) 692/2008 as amended up to Regulation (EU) No. 2018/1832</p> <p>Directive 70/220/EEC, as amended up to Directive 2003/76/EC</p> <p>UN Global Technical Regulation (GTR) No. 15</p> <p>Regulation (EU) 2017/1151 as amended up to Regulation (EU) No. 2023/443</p>
	<p>Emission of gaseous pollutants and particle number under real driving conditions (Type 1a Test)</p> <p>Measurement of concentration with PEMS portable analysers:</p> <ul style="list-style-type: none"> - CO, range: (0 – 10)% <p>NDIR method</p> <ul style="list-style-type: none"> - CO₂, range: (0 – 20)% <p>NDIR method</p> <ul style="list-style-type: none"> - THC, range: (0 – 10000) ppmC3 <p>FID method</p> <ul style="list-style-type: none"> - NO, range: (0 – 5000) ppm <p>CLD, NDUV method</p> <ul style="list-style-type: none"> - NO₂, range: (0 – 2500) ppm <p>NDUV method</p> <ul style="list-style-type: none"> - NO_x, range: (0 – 3000) ppm <p>CLD method</p> <ul style="list-style-type: none"> - PN - laser method, electrostatic method <p>Emission: CO, CO₂, THC, NO, NO₂, NO_x, PN</p>	<p>Regulation (EC) No. 692/2008 as amended up to Regulation (EU) No. 2018/1832</p> <p>Regulation (EU) No. 2017/1151 as amended up to Regulation (EU) No. 2023/443</p>

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of categories M and N with SI and CI engines, including hybrid vehicles	Carbon monoxide emission at idling (Type 2 Test) Emission measurement: - CO, range: (0 – 10) % NDIR method - CO ₂ , range: (0 – 20) % NDIR method - THC, range: (0 – 2) % NDIR method - O ₂ , range: (0 – 25) % Electrochemical method	UN ECE Regulation No. 83 Regulation (EC) 715/2007 as amended up to Regulation (EU) No. 2018/858 Regulation (EC) 692/2008 as amended up to Regulation (EU) No. 2018/1832 Directive 70/220/EEC as amended up to Directive 2003/76/EC Regulation (EU) 2017/1151 as amended up to Regulation (EU) No. 2023/443
Vehicles of categories M and N with SI and CI engines, including hybrid vehicles	Emission of crankcase gases by crankcase underpressure method (Type 3 Test) Range: 1 m H ₂ O Manometric method	UN ECE Regulation No. 83 Regulation (EC) 715/2007 as amended up to Regulation (EU) No. 2018/858
	Emissions of CO and HC gaseous pollutants at ambient temp. -7°C (Type 6 Test) Measurement of concentrations: - CO, range: (0 – 12) % NDIR method - THC, range: (0 – 5) % FID method Emission calculated	Regulation (EC) 692/2008 as amended up to Regulation (EU) No. 2018/1832 Directive 70/220/EEC, as amended up to Directive 2003/76/EC Regulation (UE) 2017/1151 as amended up to Regulation (EU) No. 2023/443
	Durability of anti-pollution (gaseous and solids) devices by using driving tests emission measurement method, before and after vehicle ageing test (Type 5 Test)	UN ECE Regulation No. 83 UN ECE Regulation No. 154 Regulation (EC) 715/2007 as amended up to Regulation (EU) No. 2018/858
	On-board diagnostic (OBD) operation test	Regulation (EC) 692/2008 as amended up to Regulation (EU) No. 2018/1832 Directive 70/220/EEC, as amended up to Directive 2003/76/EC Regulation (UE) 2017/1151 as amended up to Regulation (EU) No. 2023/443
Heavy-duty vehicles of categories M and N with SI and CI engines, including hybrid vehicles	Emission of gaseous pollutants and particle number under real driving conditions Measurement of concentration with PEMS portable analysers: - CO, range (0 – 10) % NDIR method - CO ₂ , range (0 – 20) % NDIR method - THC, range (0 – 10000) ppmC ₃ FID method - NO, range (0 – 5000) ppm CLD, NDUV method - NO ₂ , range (0 – 2500) ppm NDUV method - NO _x , range (0 – 3000) ppm CLD method - PN - laser method, electrostatic method Emission: CO, CO ₂ , THC, NO, NO ₂ , NO _x , PN	UN ECE Regulation No. 49 Regulation (EC) 595/2009 as amended up to Regulation (EU) No. 2019/1242 Regulation (EU) 582/2011 as amended up to Regulation (EU) No. 2022/2383 Regulation (EU) 2017/2400 as amended up to Regulation (EU) No. 2022/1379

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Non-road mobile machinery with SI and CI engines	Emission of gaseous pollutants under actual operating conditions Measurement of concentration with PEMS portable analysers: - CO, range (0 – 10) % NDIR method - CO ₂ , range (0 – 20) % NDIR method - THC, range (0 – 10000) ppmC ₃ FID method - NO, range (0 – 5000) ppm CLD, NDUV method - NO ₂ , range (0 – 2500) ppm NDUV method - NO _x , range (0 – 3000) ppm CLD method Emission: CO, CO ₂ , THC, NO, NO ₂ , NO _x	Regulation (EU) 2016/1628 as amended up to Regulation (EU) No. 2022/992 Regulation (EU) 2017/654 as amended up to Regulation (EU) No. 2021/1398 Regulation (EU) 2017/655 as amended up to Regulation (EU) No. 2022/2387 Regulation (EU) 2018/985 as amended up to Regulation (EU) No. 2022/518
Vehicles of categories M and N with SI and CI engines, including hybrid	Fuel consumption by the carbon balance method	UN ECE Regulation No. 101 UN ECE Regulation No. 154 Regulation (EC) 715/2007 as amended up to Regulation (EU) No. 2018/858 Regulation (EC) 692/2008 as amended up to Regulation (EU) No. 2018/1832 Directive 80/1268/EEC as amended up to Directive 2004/3/EC UN Global Technical Regulation (GTR) No. 15 Regulation (EU) 2017/1151 as amended up to Regulation (EU) No. 2023/443
Vehicles of categories M and N with SI and CI engines (hybrid vehicles) and electric vehicles	Electrical energy consumption by energy balance method Driving range on electrical battery power Current: range (0 – 500) A Voltage: range (0 – 1000) V	UN ECE Regulation No. 101 UN ECE Regulation No. 154 Regulation (EU) 2017/1151 as amended up to Regulation (EU) No. 2023/443
Vehicles with SI and CI engines	Emission of gaseous pollutants at idling and at idling-up speed by direct measurement of row exhaust gases Measurement of concentrations: - CO, range: (0 – 10) % NDIR method - CO ₂ , range: (0 – 20) % NDIR method - THC, range: (0 – 2) % NDIR method - O ₂ , range: (0 – 25) % Electrochemical method Smoke opacity Range: (0 – 60) %	Directive 2009/40/EC, as amended up to Directive 2010/48/EU UN ECE Regulation No. 24 Regulation (EC) No. 715/2007 as amended, up to Regulation (EU) No. 2018/858 Regulation (EC) No. 692/2008 as amended up to Regulation (EU) No. 2018/1832 Regulation (EU) No. 2017/1151 as amended up to Regulation (EU) No. 2023/443

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents				
Catalysts for spare parts for M and N-category vehicles with SI and CI engines	Catalyst system efficiency by comparative measurement of emission of gaseous and particulate pollutants	UN ECE Regulation No. 103 Regulation (EC) No. 715/2007 as amended up to Regulation (EU) No. 2018/858 Regulation (EC) No. 692/2008 as amended up to Regulation (EU) No. 2018/1832 Regulation (EU) No. 2017/1151 as amended up to Regulation (EU) No. 2023/443				
M and N-category vehicles equipped with additional LPG or CNG fueling retrofit	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"> Gaseous exhaust emission Concentration: CO, CO₂, NO₂, NO_x, THC, CH₄. Range: - CO: (0 – 12)% ; - CO₂: (0 – 20)% NDIR method; - NO₂, NO_x: (0 – 1)% CLD method; - THC: (0 – 5)% FID method; - CH₄: (0 – 0.05)% Chromatographic method GC-FID - CH₄: (0 – 2.5)% FID method; - O₂: (0 – 22)%, PMD method Emission: CO, CO₂, NO₂, NO_x, THC, CH₄, NMHC (calculated) </td> </tr> <tr> <td style="padding: 5px;"> Fuel consumption by the carbon balance method </td> </tr> <tr> <td style="padding: 5px;"> Maximum power on vehicle wheels Range: (0 – 258) kW Tensometric method </td> </tr> <tr> <td style="padding: 5px;"> On-board diagnostic (OBD) operation test </td> </tr> </table>	Gaseous exhaust emission Concentration: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ . Range: - CO: (0 – 12)% ; - CO ₂ : (0 – 20)% NDIR method; - NO ₂ , NO _x : (0 – 1)% CLD method; - THC: (0 – 5)% FID method; - CH ₄ : (0 – 0.05)% Chromatographic method GC-FID - CH ₄ : (0 – 2.5)% FID method; - O ₂ : (0 – 22)%, PMD method Emission: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , NMHC (calculated)	Fuel consumption by the carbon balance method	Maximum power on vehicle wheels Range: (0 – 258) kW Tensometric method	On-board diagnostic (OBD) operation test	UN ECE Regulation No. 115
Gaseous exhaust emission Concentration: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ . Range: - CO: (0 – 12)% ; - CO ₂ : (0 – 20)% NDIR method; - NO ₂ , NO _x : (0 – 1)% CLD method; - THC: (0 – 5)% FID method; - CH ₄ : (0 – 0.05)% Chromatographic method GC-FID - CH ₄ : (0 – 2.5)% FID method; - O ₂ : (0 – 22)%, PMD method Emission: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , NMHC (calculated)						
Fuel consumption by the carbon balance method						
Maximum power on vehicle wheels Range: (0 – 258) kW Tensometric method						
On-board diagnostic (OBD) operation test						

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
M and N-category vehicles with SI and CI engines	Emission of gaseous and particulate exhaust pollutants - JC08 tests and WLTC Concentration: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , PM, PN: Range: - CO: (0 – 12)% ; - CO ₂ : (0 – 20)% NDIR method; - NO ₂ , NO _x : (0 – 1)% CLD method; - THC: (0 – 5) % FID method; - CH ₄ : (0 – 0.05)% chromatographic method GC-FID; - CH ₄ : (0 – 2.5)% FID method; - O ₂ : (0 – 22)%, PMD method; - PM – gravimetric method; - PN – laser method. Emission: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , NMHC, PM, PN (calculated) Emission of CO, HC, and CO ₂ at idling Underpressure in the crankcase by direct measurement Fuel consumption by the carbon balance method JC08 tests and WLTC	TRIAS 31-J042(2)-02 TRIAS 31-J042(3)-02 Attachment 42 -Technical Standard TRIAS 31-J042 GTR015-01 TRIAS 99-006-01 TRIAS 08-J042GTR015-01
Two-wheel or three-wheel and four-wheel motor vehicles, including hybrid and electric vehicles	Emission of gaseous and particulate exhaust pollutants (Type I Test) Concentration: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , PM, PN: Range: - CO: (0 – 12)%; - CO ₂ : (0 – 20)% NDIR method -NO ₂ , NO _x : (0 – 1)% CLD method - THC: (0 – 5)% FID method - CH ₄ : (0 – 0.05)% Chromatographic method GC-FID - CH ₄ : (0 – 2.5)% FID method - O ₂ : (0 – 22)%, PMD method - PM - gravimetric method - PN - laser method Emission: CO, CO ₂ , NO ₂ , NO _x , THC, CH ₄ , NMHC, PM (calculated)	Regulation (EU) No. 168/2013 as amended up to Regulation (EU) No. 2020/1694 Regulation (EU) No. 134/2014 as amended up to Regulation (EU) No. 2018/295 UN Global Technical Regulations (GTR) No. 2

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Two-wheel or three-wheel and four-wheel motor vehicles, including hybrid and electric vehicles	Test of carbon monoxide at idling (Type II Test) Emission measurements: - CO, range: (0 – 10)% NDIR method - CO ₂ , range: (0 – 20)% NDIR method - THC, range: (0 – 2)% NDIR method - O ₂ , range: (0 – 25)% Electrochemical method	Regulation (EU) No. 168/2013 as amended up to Regulation (EU) No. 2020/1694 Regulation (EU) No. 134/2014 as amended up to Regulation (EU) No. 2018/295 UN Global Technical Regulations (GTR) No. 2
	Emission of crankcase gases by crankcase underpressure measurement (Type III Test) Range: 1 m H ₂ O - manometer method	
	Emission of CO ₂ , fuel consumption, consumption of electrical power and driving range when battery-powered by carbon balance and energy balance methods Type VII Test	
	Maximum power on wheels Tensometric method Range: (0 – 258) kW	

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Heat Exchangers Testing Department (BW) Sarni Stok 93, 43-300 Bielsko-Biala		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Car heat exchangers and other elements of heat exchange systems	Resistance to working medium temperature changes Range: (-40 – 850) °C – air (-40 – 150) °C – oil, glycol and its solutions	BOSMAL/I-7-53/04
	Resistance to working medium changeable pressure Range: (-0.98 – - 4) bar – air up – 5 bar – glycol and its solutions up – 40 bar – oil	BOSMAL/I-7-54/04
	Tightness tests of closed components /systems Range: Water tightness tests (15 – 50) °C – water (0 – 9) bar – air (0 – 40) bar – nitrogen Tightness tests in temperature chamber (-40 – 180) °C – environment (0 – 9) bar – air Tightness tests – resistance to vacuum (-40 – 180) °C – environment (-0.99 – 0) bar – air Pressure drop method (-40 – 180) °C – environment (0 – 9) bar – air	BOSMAL/I-7-104/01
	Thermal performance and flow resistance Range: Water and glycol flow: 100 – 15000 L/h Air flow: 0.1 – 12400 kg/h Oil flow: 3 – 80 L/min Water and glycol temperature: (-10 – 100) °C Air temperature: (5 – 510) °C Oil temperature: (-20 – 140) °C Water and glycol pressure: up to 2.5 bar Air pressure: up to 3 bar Oil pressure: up to 5 bar	BOSMAL/I-7-57/04

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Electrotechnics & Electronics Department (BE) Sarni Stok 93, 43-300 Bielsko-Biala		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Components/assemblies of electric and electronic equipment	Voltage ($100 \times 10^{-6} \text{ V} - 1000 \text{ V}$)	BOSMAL/I-7-10/05
	Electric current ($200 \times 10^{-6} \text{ A} - 300 \text{ A}$)	BOSMAL/I-7-37/05
	Resistance ($50 \times 10^{-6} \Omega - 100 \times 10^{12} \Omega$)	ISO 6722-1:2011 ISO 6722-1:2011/Cor1:2012 PN-EN 60851-5:2008
	Capacitance ($1 \text{ pF} - 100 \mu\text{F}$)	BOSMAL/I-7-39/04
	Inductance ($100 \mu\text{H} - 100 \text{ H}$)	BOSMAL/I-7-39/04
Components/assemblies of machinery and other devices Transport packagings with contents	Environmental hazard resistance: Test A: Cold (up to $-40 \pm 2^\circ\text{C}$)	PN-EN 60068-2-1:2009
	Test B: Dry heat (up to $300 \pm 2^\circ\text{C}$)	PN-EN 60068-2-2:2009
	Test Cab: Damp heat, steady state ($30 \pm 2^\circ\text{C}$; $93 \pm 3\%$) ($30 \pm 2^\circ\text{C}$; $85 \pm 3\%$) ($40 \pm 2^\circ\text{C}$; $93 \pm 3\%$) ($40 \pm 2^\circ\text{C}$; $85 \pm 3\%$)	PN-EN 60068-2-78:2013-11
	Test Db: Damp heat, cyclic (12h+12h cycle)	PN-EN 60068-2-30:2008
	Test Na: Change of temperature ($-40 \pm 2^\circ\text{C} - 150 \pm 2^\circ\text{C}$)	PN-EN 60068-2-14:2009
	Test Nb: Change of temperature ($-40 \pm 2^\circ\text{C} - 130 \pm 2^\circ\text{C}$) with gradient $\leq 10^\circ\text{C}/\text{min}$	PN-EN 60068-2-14:2009
	Test Z/AD: Composite temperature/humidity cyclic test	PN-EN IEC 60068-2-38:2021-12
	Resistance to solar radiation using laboratory light sources Light exposure method	PN-EN IEC 60068-2-5:2018-08 met. Sa
	Test Fc: Vibration (sinusoidal) Range: up to 100 g (peak)	PN-EN 60068-2-6:2008
	Test Ea: Shock Range: up to 1500 m/s^2 (peak)	PN-EN 60068-2-27:2009
	Vertical shocks Range: up to 1500 m/s^2 (peak)	PN-EN ISO 4180:2010 p. 10.6
	Vertical random vibration test Range: up to 0.604 g (RMS)	PN-EN ISO 13355:2016-10
	Test Ec: Shocks caused by careless handling of products. Attempted dropping and overturning, and one free fall. Range: mass up to 9.2 kg	PN-EN 60068-2-31:2010 p. 5.1 i 5.2
	Test Fh: Vibrations, broadband random Range: up to 70 g (RMS)	PN-EN 60068-2-64:2008
	Transport vibration tests Range: up to 10.59 m/s^2 (RMS)	PN-EN ISO 4180:2020-04 p. 6.4

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Components/assemblies of machinery and other devices	Water resistance (tests concerning second characteristic digit 1, 2, 3, 4, 4K, 5, 6, 6K, 7, 8, 9, 9K) Test Rb 1.1 by oscillatory pipe method (max. 40 l/min) Test Rb 1.2 by spray tip method Test Rb 2, Rb 3 and Rc 1	PN-EN 60529:2003 p. 14.2.1, 14.2.2, 14.2.3; 14.2.4, 14.2.5, 14.2.6, 14.2.7, 14.2.8 PN-EN 60529:2003/A2:2014-07 PN-EN 60068-2-18:2017-08 ISO 20653:2013
	Dust penetration resistance (dust tests concerning first characteristic digit 5, 5K, 6, 6K) in dust chamber with negative pressure and dust circulation being forced	PN-EN 60529:2003 p. 13.4 PN-EN 60529:2003/A2:2014-07 ISO 20653:2013
	Degrees of protection against foreign objects (tests concerning first characteristic digit 1, 2, 3, 4 and additional letters A, B, C, D)	PN-EN 60529:2003 PN-EN 60529:2003/A2:2014-07 ISO 20653:2013
	Degrees of protection against access to hazardous parts (tests concerning first characteristic digit 1, 2, 3, 4 and additional letters A, B, C, D)	PN-EN 60529:2003 PN-EN 60529:2003/A2:2014-07 ISO 20653:2013
	Splash water test	ISO 16750-4:2010

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Luminous devices powered by constant or alternating voltage	Luminous intensity distribution by goniophotometric method with rotating object ($0.1 - 5 \times 10^6$) cd	BOSMAL/I-7-84/03 PN-EN 13032-1+A1:2012 PN-EN 13032-4+A1:2019-09 CIE 70:1987 IES LM 79-08 ANSI/IES LM 79-19 PN-EN 12966:2015-03 PN-EN 12966+A1:2019-02 PN-EN 12966-1+A1:2009 UN ECE Regulation No. 128
	Spectral and colorimetric characteristics (spectral distribution, chromaticity coordinates, correlated colour temperature)	CIE 13.3:1995 CIE 15:2004 CIE 15:2018 CIE 63:1984 IES LM 79-08 ANSI/IES LM 79-19 PN-EN 13032-4+A1:2019-09 PN-EN 12966:2015-03 PN-EN 12966+A1:2019-02 PN-EN 12966-1+A1:2009 UN ECE Regulation No. 37 UN ECE Regulation No. 99 UN ECE Regulation No. 128
	Luminance ($1 \times 10^{-8} - 1 \times 10^5$) cd/m ²	PN-E-04040-04:1983 PN-EN 13032-1+A1:2012 PN-EN 13032-4+A1:2019-09 SAE J1757-1:2021-08 PN-EN 12966-1:2009 PN-EN 12966:2015-03 PN-EN 12966+A1:2019-02 PN-EN ISO 9241-305:2009 PN-EN 12966-1+A1:2009
	Luminous flux	CIE 84:1989 PN-EN 13032-1+A1:2012 PN-EN 13032-4+A1:2019-09 IES LM 79-08 ANSI/IES LM 79-19 UN ECE Regulation No. 37 UN ECE Regulation No. 99 UN ECE Regulation No. 128
Traffic control equipment Signal heads	Luminance uniformity	PN-EN 12368:2015-07 p. 8.3
Workplaces, passageways	Illuminance ($1 \times 10^{-3} - 3 \times 10^5$) lx	PN-E-04040-03:1983 PN-EN 12464-1:2022-01 PN-EN 12464-2:2014-05

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Components/assemblies of electric/electronic cars equipment	Voltage	PN-S-76020:1997 p. 3.3.2
	Voltage drop	PN-S-76020:1997 p. 3.3.3
	Resistance to high voltage	PN-S-76020:1997 p. 3.3.4
	Resistance to short-circuit	PN-S-76020:1997 p. 3.3.5
	Resistance to change in the polarity of the power source	PN-S-76020:1997 p. 3.3.6
	Durability	PN-S-76020:1997 p. 3.3.12
	Insulation resistance	ISO 16750-2:2012 p. 4.12
	Dielectric strength	ISO 16750-2:2012 p. 4.11
	Resistance to dump heat, steady state	PN-EN 60068-2-78:2013-11 PN-S-76020:1997 p. 3.3.9
	Thermal resistance	PN-EN-60068-2-2:2009 PN-EN-60068-2-1:2009
	Resistance to cyclical temperature changes	PN-S-76020:1997 p. 3.3.8
	Vibration resistance	PN-EN-60068-2-6:2008 PN-S-76020:1997 p. 3.3.10
	Dust and water resistance	PN-S-76020:1997 p. 3.3.13 PN-EN-60529:2003 p. 13.4; 14.2.3; 14.2.4 PN-EN 60529:2003/A2:2014-07

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Cars switches	Voltage drop	BOSMAL/I-7-67/02
	Insulation resistance	
	Dielectric strength	
	Durability	
	Interchangeability of parts	
	Thermal resistance	PN-EN-60068-2-2:2009 PN-EN-60068-2-1:2009
	Resistance to cyclical temperature changes	PN-EN-60068-2-14:2009
	Humidity resistance	PN-EN 60068-2-78:2013-11
	Vibration resistance	PN-EN-60068-2-6:2008
	Dust and water resistance	PN-EN-60529:2003 p. 13.4; 14.2.3; 14.2.4 PN-EN 60529:2003/A2:2014-07
Automobile electronic breakers for direction indicator lamps and emergency lights	Start time	PN-ISO 4082-1999 p.5.5
	Frequency and duty cycle	PN-ISO 4082-1999 p.5.6
	Voltage drop	PN-ISO 4082-1999 p.5.8
	Dielectric strength	PN-ISO 4082-1999 p.5.9
	Resistance to overload	PN-ISO 4082-1999 p.5.11
	Vibration resistance	PN-ISO 4082-1999 p.5.12.2
	Impact resistance	PN-ISO 4082-1999 p.5.13
	Resistance to heat and cold	PN-ISO 4082-1999 p.5.14
	Operation in extreme temperatures	PN-ISO 4082-1999 p.5.15
Durability	PN-ISO 4082-1999 p.5.16	
Wire harnesses/cables of low voltage car installation	Insulation resistance Withstand voltage Voltage drop Resistance to cyclical temperature changes Squeeze test Quality of manufacturing Tightness test (bubble test) Resistance to high temperature Cold flexibility of the cable Flexibility of the cable after aging Resistance to static immersion Resistance to rain Insulation shrinkage Cold Impact Active resistance	BOSMAL/I-7-69/03 ISO 6722-1:2011 ISO 6722-1:2011/Cor 1:2012 PN-EN 60068-2-14:2009 IEC 60227-2:1997+A1:2003 p. 2.1 ISO 19642-2:2019
Electrical connectors	Resistance (voltage drop) Water resistance Temperature/humidity cycling Insulation resistance Withstand voltage Connector coding and polarization Current cycles Heat ageing Free fall Dust resistance Rapid change of temperature (thermal shock) Temperature rise	PN-EN ISO 8092-2:2008

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Electrical connectors	Crimp resistance ($50 \times 10^{-6} \Omega - 1 \Omega$)	PN-EN 60512-2-1:2006 PN-EN 60512-2-2:2006 PN-EN 60352-2:2006 PN-EN 60352-2:2006/A1:2013-10
Connectors for electronic equipment	Contact resistance - millivolt level method	PN-EN 60512-2-1:2006
	Contact resistance - test current method	PN-EN 60512-2-2:2006
	Insulation resistance	PN-EN 60512-3-1:2005
	Voltage stress test	PN-EN 60512-4-1:2006
	Voltage proof of pre-insulated crimp barrels	PN-EN 60512-4-3:2006
	Temperature rise	PN-EN 60512-5-1:2006
	Current-carrying capacity tests with current-temperature derating	PN-EN 60512-5-2:2005
	Current loading, cyclic	PN-EN IEC 60512-9-5:2021-03
Electrical and electronic equipment installed in L, M, N and O-category vehicles, supplied with 12 V and 24 V DC current	Climatic tests	PN-EN IEC 60512-11-1:2019-10 PN-IEC 68-2-61:1994 PN-IEC 68-2-61:1994/Ap1:1999
	Measurements of emitted disturbances	ISO7637-2:2011 UN ECE Regulation No. 10 Annex 10
	Resistance to transient conduction along supply lines: impulses 1, 2a, 2b, 3a, 3b, 4, 5a, 5b	ISO 7637-2:2011 ISO 16750-2:2012 UN ECE Regulation No. 10 Annex 10 UN ECE Regulation No. 97 Annex 9 UN ECE Regulation No. 116 Annex 9
	Increased voltage	ISO 16750-2:2012 p.4.3
	Superimposed alternating voltage	ISO 16750-2:2012 p.4.4
	Slow decrease and increase in the supply voltage	ISO 16750-2:2012 p.4.5
	Discontinuities in the supply voltage	ISO 16750-2:2012 p.4.6
	Reverse voltage polarity	ISO 16750-2:2012 p.4.7
	Reference signals shift	ISO 16750-2:2012 p.4.8
	Open circuit operation	ISO 16750-2:2012 p.4.9
	Short-circuit resistance	ISO 16750-2:2012 p.4.10
Electric endurance	ISO 16750-2:2012 p.4.11	
Electric drivetrains of vehicles category M, N, L	Protection against access. Insulation resistance	UN ECE Regulation No. 100 Annex: 3, 4B, 8, 8A, 8B, 8F, 8G, 8H, 8I
	Vibration tests	UN ECE Regulation No. 100 Annex: 3, 5B, 9, 9A, 9B, 9F, 9G, 9H, 9I
	Test with rapid changes of temperature and thermal cycle test	UN ECE Regulation No. 136 Annex: 3, 4A, 4B, 8A, 8B, 8C, 8D, 8F, 8G, 8H, 8I, 9A, 9B
	Free fall	ISO 6469-1:2019 p. 6.3.1, p. 6.2.2, p. 6.2.3, p. 6.6.2, p. 6.6.3, p. 6.6.4, p. 6.5.1
	Mechanical shocks. Protection against external short circuit	
	Protection against overcharge	
	Protection against over-discharge	
	Protection against overheating	
	Test of withstand voltage	
	IPX5 water resistance tests	
Electric drivetrains of vehicles category T, C, R, S	Insulation resistance	Regulation (EU) No. 2015/208 Annex XXIV
	Protection against direct contact	Regulation (EU) No. 3/2014 Annex IV

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Rechargeable energy storage systems (REESS) used in road vehicles of M, N, L- categories	Fire resistance	UN ECE Regulation No. 100 Annex 8E UN ECE Regulation No. 100 Annex 9E (method with a pan filled with fuel) UN ECE Regulation No. 136 Annex 8E ISO 6469-1:2019 p. 6.4.3 PN-EN ISO 18243:2019-06 p. 8.6
Electrical and electronic equipment	Resistance to electrostatic discharges (ESD)	PN-EN 61000-4-2:2011 ISO 10605:2008
Railway applications - Elements/assemblies of equipment/parts of machines and devices	Temperature resistance Humidity resistance Rain resistance Snow and hail resistant Ice resistance Resistance to solar radiation Vibrations Wind resistance	PN-EN 50125-3:2003-10 p. 4.3; 4.4; 4.5; 4.6; 4.7; 4.8; 4.9; 4.13 BOSMAL/I-7-106/01
Rear-view mirrors for vehicles of categories L, M and N	Coefficient of reflection (total) of mirror surfaces	UNECE Regulation No. 46 p.6.1.2.2
Laminated automotive glass for vehicles of categories L, M, N, O and T	Light transmission Optical distortion Secondary-image-separation test	Directive 92/22/EEC Annex II A, as amended, up to Directive 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 9.1; 9.2; 9.3; 9.4; ISO 3538:1997 p. 5.1; 5.2; 5.3
	Mechanical strength	Directive 92/22/EEC Annex II A, as amended, up to Directive 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 2.1, 2.2 ISO 3537:2015 p. 6,7
	Resistance to: - high temperature - humidity	Directive 92/22/EEC Annex II A, as amended, up to Directive No. 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 5; 7

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Toughened automotive glass for vehicles of categories L, M, N, O and T	Light transmission Optical distortion Secondary-image-separation test	Directive 92/22/EEC Annex II A, as amended, up to Directive 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 9.1; 9.2; 9.3; 9.4 ISO 3538:1997 p. 5.1; 5.2; 5.3
	Mechanical strength	Directive 92/22/EEC Annex II A, as amended, up to Directive 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 2.1; 2.2; ISO 3537:2015 p. 6; 7
Toughened automotive glass for L, M, N, O and T-category vehicles	Fragmentation	Directive 92/22/EEC Annex II A, as amended up to Directive 2001/92/EC Annex II B Directive 2009/144/EC Annex III C updated by Directive 2010/62/EU UNECE Regulation No. 43 Annex 3, p. 1 ISO 3537:2015 p. 9
Heated rear windows (backlights)	Power of heating circuit	BOSMAL/I-7-85/02
	Circuit continuity	
	Temperature rise	
	Defrosting	
	Heat-shock resistance	
	Durability of heating circuit Abrasion resistance	
Advance-warning triangles	Colour Coefficient of luminous intensity Luminance factor	UNECE Regulation No. 27 UNECE Regulation No. 150
Retro-reflective devices for L, M, N, O and T-category vehicles	Colour	UNECE Regulation No. 3 UNECE Regulation No. 150 Directive 76/757/EEC Annex VII, as amended up to Directive 2006/96/EC Annex II
	Coefficient of luminous intensity	UNECE Regulation No. 3 UNECE Regulation No. 150 Directive 76/757/EEC Annex VII, as amended up to Directive 2006/96/EC Annex II
Vertical traffic signs	Colour	WT-ITS/19/94-PL E ed. 6 (04.06.2004) p. 5.6.4 PN-EN 12899-1:2010 p. 4.1.1.3 PN-EN 12899-1:2010/ Ap1:2019-07
	Coefficient of luminous intensity	WT-ITS/19/94-PL E ed. 6 (04.06.2004) p. 5.6.5 PN-EN 12899-1:2010 p. 4.1.1.4 PN-EN 12899-1:2010/ Ap1:2019-07

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Marking plates for slow-moving M, N, O and T-category vehicles and mobile machinery	Colour	PN-S-73102:1994 p. 4.6.3 UNECE Regulation No. 69 Annex 6 UNECE Regulation No. 150
	Coefficient of luminous intensity	PN-S-73102:1994 p. 4.6.4 Regulation No. 69 UNECE Annex 7 UNECE Regulation No. 150
Marking plates for heavy and long vehicles	Colour	UNECE Regulation No. 70 UNECE Regulation No. 150
	Coefficient of luminous intensity	UNECE Regulation No. 70 UNECE Regulation No. 150

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Direction indicators lights for vehicles of categories L, M, N, O and T	Colour of light Luminous intensity	UN ECE Regulation No. 6 p. 6; 8 UNECE Regulation No. 148 Directive76/759/EEC Annex 0 p. 6; 8, as amended up to Directive2006/96/EC Annex II
Front and rear position (side) lights for vehicles of categories L, M, N, O and T	Colour of light Luminous intensity	UN ECE Regulation No. 7 p. 6; 8 UNECE Regulation No. 148 Directive76/758/EEC Annex 0 p. 6; as amended, up to Directive 2006/96/EC Annex II
Stop lights for vehicles of categories L, M, N, O and T	Colour of light Luminous intensity	UN ECE Regulation No. 7 p. 6; 8 UNECE Regulation No. 148 Directive76/758/EEC Annex 0 p. 6; 8, as amended, up to Directive 2006/96/EC Annex II
Rear fog lights for vehicles of categories L3, L4, L5, L7, M, N, O and T	Colour of light Luminous intensity	UN ECE Regulation No. 38 UNECE Regulation No. 148 Directive77/538/EEC Annex 0 p. 3; 6, as amended, up to Directive 2006/96/EC Annex II
Reversing lamps for vehicles of categories M, N, O and T	Colour of light Luminous intensity	UN ECE Regulation No. 23 p. 6; 8 UNECE Regulation No. 148 Directive 77/539/EEC Annex 0 p. 6; 8, as amended, up to Directive2006/96/EC Annex II
Light-signalling devices for vehicles of category L	Colour of light Luminous intensity Luminance	UN ECE Regulation No. 50 UNECE Regulation No. 148 BOSMAL/I-7-84/03 CIE 15:2004 CIE 15:2018
Headlamps for vehicles of categories L, M, N and T	Colour of light Luminous intensity Illuminance	UN ECE Regulation No. 1 UN ECE Regulation No. 5 UN ECE Regulation No. 8 UN ECE Regulation No. 19 UN ECE Regulation No. 20 UN ECE Regulation No. 31 UN ECE Regulation No. 56 UN ECE Regulation No. 57 UN ECE Regulation No. 72 UN ECE Regulation No. 82 UN ECE Regulation No. 98 UN ECE Regulation No. 112 UN ECE Regulation No. 113 UN ECE Regulation No. 123 UNECE Regulation No. 149 BOSMAL/I-7-84/03 CIE 15:2004 CIE 15:2018

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Special warning lamps Warning and safety light devices Obstruction lights	Luminous intensity/ Effective luminous intensity Frequency of pulse Colour of light	UN ECE Regulation No. 65 PN-EN 12352:2010 ICAO 9157 PART 4 "Aerodrome Design Manual" ed. 5 – 2021 BOSMAL/I-7-84/03 CIE 15:2004 CIE 15:2018
Solid electrical insulating materials Protective clothing	Surface resistance Volume resistance Resistance to the grounding element Resistance between points (range up to 100 TΩ) Dielectric strength (voltage up to 35 kV, current up to 1 A)	BOSMAL/I-7-65/02 PN-EN 61340-2-3:2016-11 PN-EN 62631-1:2011 PN-EN 62631-3-1:2016-10 PN-EN 62631-3-2:2016-04 PN-EN 62631-3-3:2016-08 PN-EN 60243-1:2013-12 PN-EN 1149-1:2008 PN-EN 1149-2:1999 ISO 14309:2019 ASTM D257-14 (2021)
Safety glazing materials (glass, transparent polymers)for vehicles of categories L, M, N, O and T	Haze Spectrophotometric method	ISO 3537:2015 ASTM D1003-21 BOSMAL/I-7-72/02 UN ECE Regulation No. 43 Annex 3 p. 4 ANSI/SAE Z-26.1:1996
Products from plastic, glass, textiles, nonwovens, foams, rubber, coatings (including painting ones)	Colour of materials reflecting and transmitting light	BOSMAL/I-7-66/02 PN-EN ISO 105-A05:2000 PN-EN ISO 105-J01:2002 PN-EN ISO 105-J03:2009 PN-ISO 7724-1:2003 PN-ISO 7724-2:2003 PN-ISO 7724-3:2003 CIE 15:2004 CIE 15:2018 DIN 53236:2018-02 SAE J1545:2021-12 PN-EN ISO/CIE 11664-1:2019-08 PN-EN ISO 11664-2:2011 PN-EN ISO/CIE 11664-3:2019-08 PN-EN ISO/CIE 11664-4:2019-08 PN-EN ISO 11664-5:2016-10 PN-EN ISO 11664-6:2016-09
Coatings on products made of plastics, glass, textiles, nonwovens, foams, rubber	Resistance of coatings to high pressure water jet	PN-EN ISO 16925:2022-09
Delineator posts and retroreflectors	Colour Luminance factor Coefficient of luminous intensity	PN-EN 12899-3:2010
High-visibility warning clothes and accessories	Colour Coefficient of retroreflection	PN-EN ISO 20471:2013-07 PN-EN 1150:2001 PN-EN 13356:2004 PN-EN 17353:2021-01
Reflective materials and devices	Coefficient of luminous intensity Coefficient of retroreflection	CIE 54.2:2001
Devices for illuminating rear registration plates of category M, N, O, T vehicles	Luminance Angle of incidence of light Colour	UN ECE Regulation No. 4 UN ECE Regulation No. 148

Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Category M, N, T vehicle parking lights	Luminous intensity Colour	UN ECE Regulation No. 77 UN ECE Regulation No. 148
Category L, M, N, T vehicle daytime running lights	Luminous intensity Colour	UN ECE Regulation No. 87 UN ECE Regulation No. 148
Category L, M, N, O, T vehicle side-marker lights	Luminous intensity Colour	UN ECE Regulation No. 91 UN ECE Regulation No. 148
Category M, N, O vehicle retro-reflective marking	Coefficient of luminous intensity Colour of the reflected light	UN ECE Regulation No. 104 UN ECE Regulation No. 150
Category M, N, T vehicle cornering lights	Luminous intensity Colour	UN ECE Regulation No. 119 UN ECE Regulation No. 149
Vehicles of categories M and N	Noise emitted by moving and standing vehicle by acoustic pressure level method Range (25 – 140) dB Direct method	UN ECE Regulation No. 51 Annex 3 p. 3.1; 3.2 UN ECE Regulation No. 51 Annex 3 p. 3.1; 3.2, Annex 7 Regulation (EU) 540/2014 Annex II, p.4.1 and 4.2, Annex 7 PN-ISO 362:2003 PN-ISO 7188:2003
Electric drives	Sound level in acoustic chamber in the broadband range and in the 1/1 and 1/3 octave bands Range (25 – 140) dB Direct method	BOSMAL/I-7-42/04
Vehicles of categories M, N and O and systems, components and separate technical units	Functional parameters	Commission Implementing Regulation (EU) 2021/535 Annex VIII part 2 p. 3.1 and 3.2

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Road Testing Department (BD) Sarni Stok 93, 43-300 Bielsko-Biala		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of category M1	Wind screen defrosting and demisting capability	Regulation (EU) 672/2010 Annex II p. 2 Regulation (EU) 2021/535 Annex VI
	Interior heating effectiveness by measuring temperatures at certain locations of the car while driving	BOSMAL/I-7-62/03
Vehicles of category M1	Weight and its distribution on each axle, sides and wheels by use portable weighing platforms Range: (100 – 10000) kg on single wheel	PN-ISO 2416:1997 Directive 95/48/EC Appendix to Annex II
Vehicles of category M, N, O Special vehicles		Regulation (EU) No. 1230/2012 Annex I Regulation (EU) No. 2021/535 Annex XIII
Vehicles of category T, C, R, S		Regulation (EU) No. 2015/208 Annex XXI, XXII
Vehicles of category M, N, O Special vehicles	Linear and angular measurements of vehicles by direct or indirect measurement method Range: up to 30 m	BOSMAL/I-7-107/01 PN-ISO 612:2006, p. 6 Regulation (EU) No. 1230/2012 Annex I Regulation (EU) No. 2021/535 Annex XIII
Vehicles of category T, C, R, S		BOSMAL/I-7-107/01 Regulation (EU) No. 2015/208 Annex XXI
Vehicles of categories M1 and N1	Wheel setting geometry: Range: - wheel convergence: $\pm 3^\circ$ - wheel's angle of heel: $\pm 5^\circ$ - stub-axle's angle of heel: $\pm 18^\circ$ - stub-axle's castor angle: $\pm 18^\circ$ - wheel's steering angle: $\pm 20^\circ$ - front wheels' displacement: $\pm 2^\circ$	BOSMAL/I-7-11/04
	Oil consumption under on-road conditions by gravimetric method Range: (5 – 12000) g	BOSMAL/I-7-13/07
	Durability, reliability and functionality during mileage accumulation over various routes	BOSMAL/I-7-61/03
	Tire tread abrasibility under on-road conditions by supervised exploitation method	BOSMAL/I-7-92/02
	Fuel consumption at constant speed by volumetric method in the road test Range: 60 l/h	UN ECE Regulation No. 84 Annex 4, p.3.3.1

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of categories M and N Special vehicles	Centre of gravity situation by car's weight method horizontally and with one axle upraised Range: (100 – 10000) kg per wheel	ISO 10392:2011 w/o p.7 UN ECE Regulation No. 66 Annex No. 3
	Maximum speed by non-contact method on a straight track or oval ring Range: (20 – 190) km/h	BOSMAL/I-7-83/03 UN ECE Regulation No. 68 p. 5.5.1; 5.5.3; 5.5.4
	Acceleration intensity by non-contact method on a straight track Range: (20 – 190) km/h	BOSMAL/I-7-83/03
	Incorrectness of odometer readings by comparison with values measured by non-contact method Range (speed): (20 – 190) km/h	BOSMAL/I-7-59/04
	U-turn diameter by marking drive track with liquid Range up to 50 m	BOSMAL/I-7-60/03
	In-use fuel consumption by flow method in the road test Range: up to 150 l/h	BOSMAL/I-7-12/05
	Fuel consumption characteristics by flow method in the road test Range: 150 l/h	BOSMAL/I-7-58/03
Vehicles of categories M1 and N1	Effectiveness of the braking systems: - mean fully developed deceleration MFDD, - initial braking speed, - braking distance, - initial force on the brake pedal, - braking rate. Range: - speed (20 - 190) km/h, - force (0 - 1000) N, Method of road / stationary measurements	UN ECE Regulation No. 13H
Vehicles of categories M, N, O	Effectiveness of the braking systems: - mean fully developed deceleration MFDD, - initial braking speed,	UN ECE Regulation No. 13 UN ECE Regulation No. 90 Annex No. 3 (w/o p. 2.2) and Annex No. 11 (w/o p. 3 and 4)
Vehicles of categories T, R, S	- braking distance, - initial force on the brake pedal, - braking rate, - pressure of the working medium in the braking system, - response time of the braking system Range: - speed (20 - 190) km/h, - force (0 - 1000) N, - pressure (0 - 10) bar Method of road / stationary measurements	Regulation (EU) No. 2015/68

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of categories M, N, O	Lighting and light signalling devices: - geometric dimensions, - position and geometric visibility on the vehicle, - vertical and horizontal deviation Range: up to 5000 mm Direct measurement method	UN ECE Regulation No. 48
Vehicles of categories T, C, R, S		Regulation (EU) No. 2015/208 Annex XII
Vehicles of categories M2 and M3 powered by a combustion SI or CI heat engine (combustion engine)	Fuel consumption in SORT road cycle Flow method in the road test Range: up to 150 l/h or 100 kg/h	UITP Project SORT Standardized On-Road Test Cycles New Edition UITP, 2014 D/2014/0105/1 UITP Project SORT Calculation for gas vehicles D/2015/0105/4
Vehicles of categories M2, M3 with electric or hybrid drive	Electricity consumption in SORT road cycle Range: - speed: up to 70 km/h - current intensity: range up to 1000 A - voltage: range up to 1000 V - current flow: range up to 150 l/h or 100 kg/h Method: - measurement of voltage and electric current intensity consumed / recovered to the battery pack, - measurement of the efficiency (fuel consumption) of the electricity generator	BOSMAL/I-7-68/03 PB-23 edition 02 UITP Project SORT Standardized On-Road Test Cycles New Edition UITP, 2014 D/2014/0105/1 UITP Project E-SORT Cycles for electric vehicles. D/2017/0105/9
Vehicles of categories M, N, T Special vehicles Technical devices	Starting time of an internal combustion engine under different temperature conditions Range of temperature: from -40°C to 65°C	BOSMAL/I-7-73/03
Vehicles of category T	Maximum design speed	Directive 2009/60/EC corrected by Directive 2010/62/EC
	Checking the speed regulator regarding the maximum design speed	Directive 2009/144/EC corrected by Directive 2010/52/EC and by Directive 2010/62/EC
	Effectiveness of the braking systems by measuring the braking distance and delay as well as speed by non-contact method	Directive 76/432/EEC Annex II as amended, up to Directive 97/54/EC
Vehicles of categories M, N, O Special vehicles	Mechanical coupling devices: - geometric dimensions, - location on the vehicle, - load at the coupling point Range: - linear dimensions: up to 3000 mm, - load: (100 - 10000) kg Direct measurement method	UN ECE Regulation No. 55, Annex 5 and 7
Vehicles of categories T, C, R, S		Regulation (EU) No. 2015/208 Annex XXXIV

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of category N	Dimensions of vehicle external projections by use of models and special equipment	UNECE Regulation No. 61
Vehicles of category T, C, R, S	Range: up to 2000 mm Direct measurement method	Regulation (EU) No. 2015/208 Annex XIV
	Steering systems: - measurements of the force and angle of the steering wheel for motor vehicles, - measurements of track parameters while the trailer is in motion Range (torque): up to 200 Nm	UN ECE Regulation No. 79 (w/o p. 5.1.6; p. 5.6; p. 5.7; Annex 6; Annex 8)
	Tyre Pressure Monitoring System (TPMS): - pressure, - pressure drop detection time Range (of pressure): up to 10 bar Direct measurement method	UN ECE Regulation No. 141
Vehicles of categories M, N	Maximum vehicle speed limiters	UN ECE Regulation No. 89 Annex 5 p. 1.1
Vehicles of categories M, N, L Special vehicles	Speedometer and odometer assembly: - incorrectness of the speedometer indications by comparison with the values measured by the non-contact method, - parameters regarding location, visibility and range of indications Range (speed): 20 – 190 km/h	UN ECE Regulation No. 39 p. 5
Firefighting vehicles	Geometric dimensions of the vehicle Direct or indirect measurement method Range: up to 30 m	PN-EN 1846-2:2009+A1:2013 p. 3; p. 5.2.1.2; 5.1.2.2.7, 5.1.2.3, 5.2.2.2.4, 5.2.2.2.5 BOSMAL/I-7-107/01
	U-turn diameter by marking drive track with liquid Range up to 50 m	PN-EN 1846-2:2009+A1:2013 p. 3; p. 5.2.1.3 BOSMAL/I-7-60/03
	Vehicle functionality in the axle crossing test Evaluation method when driving up on steps of a certain height – up to 250 mm	PN-EN 1846-2:2009+A1:2013, p. 3; p. 5.2.1.3
	Axle loads (weight distribution) Weighing method using pad scales Range: (100 - 10000) kg per wheel	PN-EN 1846-2:2009+A1:2013 p. 3; pkt. 5.1.1.6
	Braking stability The method of measuring the value of deviation from a straight track Range: up to 100 cm	PN-EN 1846-2:2009+A1: 2013, p. 5.1.1.3.1 BOSMAL/I-7-108/01
	Acceleration intensity Non-contact method in a road test Range: (20 – 190) km/h	PN-EN 1846-2:2009+A1:2013 p. 5.2.1.3 BOSMAL/I-7-83/03
	Maximum speed Non-contact method in a road test Range: (20 – 190) km/h	PN-EN 1846-2:2009+A1:2013 p. 5.2.1.3 BOSMAL/I-7-83/03
	The range of the vehicle using one tank of fuel and the working time of additional equipment Method of volumetric fuel consumption in a road or stationary test	PN-EN 1846-2:2009+A1:2013 p. 5.2.1.9 BOSMAL/I-7-12/05
	Ready time of the pneumatic brake system from the moment of starting the engine	PN-EN 1846-2:2009+A1:2013 p. 5.2.1.7

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Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Vehicles of categories M, N, O	Statutory plate: - geometric dimensions	Commission Regulation (EU) No. 2021/535 Annex II
Vehicles of categories T, C, R, S	Direct measurement method Range: up to 200 mm	Commission Regulation (EU) No. 2021/208 Annex XX
Vehicles of categories M, N, O	Space for mounting of front and rear registration plates: - geometric dimensions	Commission Regulation (EU) No. 2021/535 Annex III
Vehicles of categories T, C, R, S	- location and visibility on the vehicle Direct measurement method Range: up to 4000 mm	Commission Regulation (EU) No. 2021/208 Annex XIX
Vehicles of categories M, O	Rear protection device: - geometric dimensions, - location on the vehicle. Range: up to 3000 mm Direct measurement method	UN ECE Regulation No. 58
Vehicles of categories R		Commission Regulation (EU) No. 2021/208 Annex XXVI
Vehicles of categories M, O	Lateral protection device: - geometric dimensions, - location on the vehicle. Range: up to 3000 mm Direct measurement method	UN ECE Regulation No. 73
Vehicles of categories R		Commission Regulation (EU) No. 2021/208 Annex XXVII
Vehicles of categories M1	Wheel guards - geometric dimensions - location on the vehicle Direct measurement method Range: up to 2000 mm	Commission Regulation (EU) No. 2021/535 Annex V
Vehicles of categories N, O	Spray suppression systems - geometric dimensions - location on the vehicle Direct measurement method Range: up to 2000 mm	Commission Regulation (EU) No. 2021/535 Annex VIII
Vehicles of categories T, R		Commission Regulation (EU) No. 2015/208 Annex XXXI
Vehicles of categories M1, N	Car body parts providing vehicle access - geometric dimensions - location on the vehicle Direct measurement method Range: up to 2000 mm	Commission Regulation (EU) No. 2021/535 Annex X
Vehicles of categories R, S	Guards and protective devices: - geometric dimensions (safe distances), Range: up to 3000 mm Direct measurement method	Commission Regulation (EU) No. 1322/2014 Annex XXV

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Gauge and Standards Room - Metrology (BP) Sarni Stok 93, 43-300 Bielsko-Biała		
Tested object / product	Type of activity/tested characteristics/test methods	Reference documents
Products made of construction materials (metal alloys, plastics, composites, sinters and ceramics), Products of natural origin	Linear dimensions up to 5000 mm Direct method	BOSMAL/I-7-32/05
	Coordinate measurements Contact method up to 3000 mm, Non-contact method up to 2500 mm	BOSMAL/I-7-80/03
	Coordinate measurements Optical and contact method up to 300 mm	BOSMAL/I-7-81/02
	Linear dimensions up to 200 mm Direct method differential and optical	BOSMAL/I-7-78/01 BOSMAL/I-7-79/01
	Angular dimensions (0° – 360°) Contact, optical method	BOSMAL/I-7-32/05 BOSMAL/I-7-79/01 BOSMAL/I-7-80/03 BOSMAL/I-7-81/02
	Surface roughness - Parameters defined in the PN-EN ISO 21920-2:2022-06 standard Direct, contact method	PN-EN ISO 21920-3:2022-06
	Shape deviations: a) straightness b) flatness c) circularity d) cylindricity e) profile outline f) surface outline Direction deviations a) parallelism b) perpendicularity c) tilt d) profile outline e) surface outline Position deviations a) position b) concentricity c) coaxiality d) symmetry e) profile outline f) surface outline Complexity deviation - radial and axis run-out Direct, contact and optical method	BOSMAL/I-7-32/05 BOSMAL/I-7-80/03 BOSMAL/I-7-81/02
	Pitch diameter of external, metric thread M4 – M32 three measuring wires method	BOSMAL/I-7-36/03
	Internal, metric thread dimensions M4 – M32 - by plug gauge	PN-ISO 1502:1998

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Type of operation: EU type approval tests of a vehicle or vehicle type	
Vehicle category	Reference document
M, N, O	Directive 2007/46/EC of the European Parliament and of the Council of 5 th of September, 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles
	Regulation (EU) No. 2018/858 of the European Parliament and of the Council of 30 th of May, 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No. 715/2007 and (EC) No. 595/2009 and repealing Directive 2007/46/EC
	Act of 20 June 1997 – Law on Road Traffic
	Regulation of the Minister of Transport, Construction and Maritime Economy of 25 th of March, 2013 on the type approval of motor vehicles and trailers and their equipment and parts
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021
T, R, C	Regulation (EU) No. 167/2013 of the European Parliament and of the Council of 5 th of February, 2013 on the approval and market surveillance of agricultural and forestry vehicles
	Act of 20 th of June, 1997 – Law on Road Traffic
	Regulation of the Minister of Transport, Construction and Maritime Economy of 18 th of June 2013 on the type approval of agricultural tractors and trailers and the type of their equipment or parts
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021
L	Regulation (EU) No. 168/2013 of the European Parliament and of the Council of 15 th of February, 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles
	Act of 20 June 1997 – Law on Road Traffic
	Regulation of the Minister of Transport, Construction and Maritime Economy of 17 th of June 2013 on the type approval of motor vehicles with two or three wheels, certain motor vehicles with four wheels, mopeds and their equipment or parts
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021
S	Regulation (EU) No. 167/2013 of the European Parliament and of the Council of 5 th of February, 2013 on the approval and market surveillance of agricultural and forestry vehicles
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
M, N, O, L, T, R, C, S	Systems, components and separate technical assemblies and parts, and equipment	Act of 20 June 1997 – Road Traffic Law Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021
M1, N1	Recyclability	Directive 2005/64/EC
M1, N1	Air conditioning systems	Directive 2006/40/EC
M1, M2, N1, N2	Emissions (Euro 5 and 6) from light vehicles /access to information	Regulation (EC) No. 715/2007 Regulation (EC) No. 692/2008 Regulation (EU) No. 2017/1151 Regulation (EU) No. 2017/1347
M, N	Emissions (Euro VI) from heavy vehicles / access to information	Regulation (EC) No. 595/2009 Regulation (EU) No. 582/2011
M1	Windscreen defrosting and demisting systems	Regulation (EU) No. 672/2010
M1	Wheel guards	Regulation (EU) No. 1009/2010
M, N	Towing devices	Regulation (EU) No. 1005/2010
N, O	Wheel spray suppression system	Regulation (EU) No. 109/2011
M, N, O	Installation of tyres	Regulation (EU) No. 458/2011
M, N	Vehicle access and manoeuvrability	Regulation (EU) No. 130/2012
M, N, O	Masses and dimensions of motor vehicles	Regulation (EU) No. 1230/2012
L	Environmental and propulsion unit performance requirements	Regulation (EU) No. 134/2014
M, N	Level of external noise emitted by vehicles in motion and by stationary ones	Regulation (EU) No. 540/2014
T, R, S	Braking systems of agricultural and forestry vehicles	Regulation (EU) No. 2015/68
T, R, S, C	Vehicle structure integrity	Regulation (EU) No. 2015/208, Annex II
T, R, S, C	Lighting, light-signalling devices and their light sources	Regulation (EU) No. 2015/208, Annex XI
T, R, S, C	Lighting installations	Regulation (EU) No. 2015/208, Annex XII
T, R, S, C	Vehicle exterior and accessories	Regulation (EU) No. 2015/208, Annex XIV
T, R, S, C	Devices to prevent unauthorised use	Regulation (EU) No. 2015/208, Annex XVIII
T, R, S, C	Registration plate	Regulation (EU) No. 2015/208, Annex XIX
T, R, S, C	Statutory plates and markings	Regulation (EU) No. 2015/208, Annex XX
T, R, S, C	Dimensions and trailer masses	Regulation (EU) No. 2015/208, Annex XXI
T, R, S, C	Maximum laden mass	Regulation (EU) No. 2015/208, Annex XXII
T, R, S, C	Safety of electrical systems	Regulation (EU) No. 2015/208, Annex XXIV, XXV Regulation (EU) No. 3/2014, Annex IV
R	Rear protective structures	Regulation (EU) No. 2015/208, Annex XXVI
R3b, R4b	Lateral protection	Regulation (EU) No. 2015/208, Annex XXVII
T, R, S	Tyres	Regulation (EU) No. 2015/208, Annex XXX
Tb, Rb	Spray-suppression systems	Regulation (EU) No. 2015/208, Annex XXXI
T, R, S, C	Mechanical couplings	Regulation (EU) No. 2015/208, Annex XXXIV

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
T, R, S, C	Requirements applying to the operator's manual	Regulation (EU) No. 1322/2014, Annex XXII
T, R, S, C	Protection against other mechanical hazard	Regulation (EU) No. 1322/2014, Annex XXIV
R, S	Guards and protective devices	Regulation (EU) No. 1322/2014, Annex XXV, XVII
T, R, S, C	Requirements applying to information, warnings and markings	Regulation (EU) No. 1322/2014, Annex XXVI
T, C	Engines for non-road mobile machinery Requirements relating to limits of gaseous and particulate pollutant emissions from these engines	Act of 15 July 2020 on EU type-approval and market surveillance systems for internal combustion engines intended for non-road mobile machinery Regulation (EU) 2016/1628 of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No. 1024/2012 and (EU) No. 167/2013, and amending and repealing Directive 97/68/EC
M3, N2, N3	CO ₂ emissions and fuel consumption of heavy-duty vehicles	Regulation (EU) No. 2017/2400
T, C	Environmental and propulsion unit performance requirements for agricultural and forestry vehicles and their engines	Regulation (EU) No. 2018/985
M, N, O	Statutory plate and the vehicle identification number	Regulation (EU) No. 2021/535, Appendix II
M, N, O	Space for mounting and fixing of front and rear registration plates	Regulation (EU) No. 2021/535, Appendix III
M1	Wheel guards	Regulation (EU) No. 2021/535, Appendix V
M1	Windscreen defrosting and demisting systems	Regulation (EU) No. 2021/535, Appendix VI
M, N	Towing devices	Regulation (EU) No. 2021/535, Appendix VII
N, O	Spray suppression systems	Regulation (EU) No. 2021/535, Appendix VIII
M, N	Vehicle access	Regulation (EU) No. 2021/535, Appendix X
M, N	Reversing motion	Regulation (EU) No. 2021/535, Appendix XI
M, N, O	Masses and dimensions	Regulation (EU) No. 2021/535, Appendix XIII
M, N, L, T	Automobile headlamps with asymmetric dipped lights or high beam lights and category R2 or HS1 bulbs	UN ECE Regulation No. 1
M, N, L, O, T	Retro-reflecting devices of motor vehicles and their trailers	UN ECE Regulation No. 3
M, N, O, T	Devices for illuminating rear registration plates of motor vehicles and their trailers	UN ECE Regulation No. 4
T	"Sealed beam" (SB) type headlamps with European asymmetric dipped lights or high beam lights	UN ECE Regulation No. 5
M, N, L, O, T	Direction indicators of motor vehicles and their trailers	UN ECE Regulation No. 6
M, N, L, O, T	Front and rear position lamps, stop-lamps and end-outline marker lamps of motor vehicles and their trailers	UN ECE Regulation No. 7

Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
M, N	Headlamps of automobile vehicles with asymmetric dipped lights or high beam lights and halogen bulbs (H1, H2, H3, HB3, HB4, H7, H8, H9, HIR1, HIR2 or H11)	UN ECE Regulation No. 8
M, N, O, L	Electromagnetic compatibility	UN ECE Regulation No. 10 (Annex 10)
M1, N1	Door latches and door retention components	UN ECE Regulation No. 11
M2, M3, N, O	Vehicles and trailers with regard to braking	UN ECE Regulation No. 13
M1, N1	Passenger cars with regard to braking	UN ECE Regulation No. 13H
M, N	Seat belt anchorages, ISOFIX anchorages systems, and ISOFIX top tether anchorage systems	UN ECE Regulation No. 14
M2, M3, N2, N3, L5e, L6e, L7e	Protection of motor vehicles against unauthorized use	UN ECE Regulation No. 18
M, N, L3e, L4e, L5e, L7e, T	Front fog lamps of motor vehicles	UN ECE Regulation No. 19
M, N, L, T	Automobile headlamps with asymmetric dipped lights or high beam lights and halogen lamps (H4 lamps)	UN ECE Regulation No. 20
M, N, O, T	Reversing lamps of motor vehicles and their trailers	UN ECE Regulation No. 23
M, N, L	Approval of compression ignition engines with regard to the emission of visible pollutants Approval of motor vehicles with regard to the installation of compression ignition engines of an approved type Approval of motor vehicles equipped with compression ignition engines with regard to the emission of visible pollutants by the engine Measurement of power of compression ignition engines	UN ECE Regulation No. 24
M1	Protruding external elements	UN ECE Regulation No. 26
M, N	Warning triangles	UN ECE Regulation No. 27
M, N, L3e, L4e, L5e	Audible warning devices and audible signals	UN ECE Regulation No. 28
M, N, T	Automobile „sealed beam” type halogen headlamps with European asymmetrical dipped lights or high beam lights or both	UN ECE Regulation No. 31
M, N, O, L, T	Filament lamps for use in approved headlamps for power-driven vehicles and their trailers	UN ECE Regulation No. 37
M, N, L3e, L4e, L5e, L7e, O, T	Rear fog lamps for power-driven vehicles and their trailers	UN ECE Regulation No. 38
M, N, L	Speedometer equipment and its installation	UN ECE Regulation No. 39
M, N, O, L, T	Safety glazing materials and their installation on vehicles	UN ECE Regulation No. 43
M, N, L	Devices for indirect vision and their installation	UN ECE Regulation No. 46
M, N, O	Installation of lighting and light-signalling devices on vehicles	UN ECE Regulation No. 48
M, N	Emission of gaseous and particulate pollutants from compression-ignition engines and from positive-ignition engines used in vehicles	UN ECE Regulation No. 49

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
L	Front and rear position lamps, stop lamps, direction indicators and rear registration-plate illumination for vehicles of category L	UN ECE Regulation No. 50
M, N	External noise level while driving and parking	UN ECE Regulation No. 51
L3e	Lighting and light-signalling devices	UN ECE Regulation No. 53
M, N, O	Mechanical coupling parts of vehicle units	UN ECE Regulation No. 55

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
L1e, L2e	Headlamps for mopeds and vehicles treated as such	UN ECE Regulation No. 56
L3e, L4e, L5e, L6e, L7e	Headlamps for motor cycles	UN ECE Regulation No. 57
M, N, O	Rear underrun protection devices (RUPD) and their installation	UN ECE Regulation No. 58
M1, N1	Replacement silencing systems	UN ECE Regulation No. 59
N	Commercial vehicles with regard to their external projections forward of the cab's rear panel	UN ECE Regulation No. 61
M, N, O, L, T	Warning lamps of motor vehicles and their trailers	UN ECE Regulation No. 65
M, N	Specific components for liquefied petroleum gases (LPG) and their installation on motor vehicles	UN ECE Regulation No. 67 (part II)
M1, N1	Measurement of the maximum speed	UN ECE Regulation No. 68
M, N, O, T	Rear marking plates for slow-moving vehicles (by design) and their trailers	UN ECE Regulation No. 69
M2, M3, N2, N3, O	Rear marking plates for heavy and long vehicles	UN ECE Regulation No. 70
L3e, L4e, L5e	Motorcycle headlamps with asymmetric dipped lights or high beam lights equipped with halogen bulbs (HS1)	UN ECE Regulation No. 72
N2, N3, O3, O4	Lateral protection device (LPD) and its installation	UN ECE Regulation No. 73
L1e	Installation of lighting (moped)	UN ECE Regulation No. 74
M, N, T	Parking lamps of motor vehicles	UN ECE Regulation No. 77
L1e, L2e, L3e, L4e, L5e	Approval of parking lamps for category L1, L2, L3, L4 and L5 vehicles	UN ECE Regulation No. 78
M, N, O	Steering equipment	UN ECE Regulation No. 79
L1e, L2e, L6e	Moped headlamps equipped with halogen lamps (HS2)	UN ECE Regulation No. 82
M1, M2, N1, N2	Approval of vehicles with regard to the emission of pollutants according to engine fuel requirements	UN ECE Regulation No. 83
M1, N1	Measurement of fuel consumption	UN ECE Regulation No. 84
M, N	Approval of internal combustion engines or electric drive trains intended for the propulsion of motor vehicles of categories M and N with regard to the measurement of net power and the maximum 30-minute power of electric drive trains	UN ECE Regulation No. 85
T	Installation of Lighting and Light-Signalling Devices	UN ECE Regulation No. 86
M, N, L, T	Daytime running lamps for motor vehicles	UN ECE Regulation No. 87
M, N	Limiting vehicle speed	UN ECE Regulation No. 89
M, N, O, L	Replacement brake lining assemblies and drum brake linings for motor vehicles and their trailers	UN ECE Regulation No. 90

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
M, N, O, T	Side-marker lamps for motor vehicles and their trailers	UN ECE Regulation No. 91
N2, N3	Front underrun protection devices (FUPD), front underrun protection (FUP)	UN ECE Regulation No. 93
T, C	Approval of engines with compressed ignition (CI) to be installed in agricultural and forestry tractors and in non-road mobile machinery with regard to the emissions of pollutants by the engine	UN ECE Regulation No. 96
M1, N1	Vehicle alarm systems	UN ECE Regulation No. 97
M, N, L3e	Motor vehicle headlamps equipped with gas-discharge light sources	UN ECE Regulation No. 98
M, N	Gas discharge light sources for use in approved Gas discharge lamp units of power-driven vehicles	UN ECE Regulation No. 99
M, N	Electrical safety	UN ECE Regulation No. 100
M1, N1	Measurement of the emission of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range	UN ECE Regulation No. 101
N2, N3, O3, O4	Close coupling device (CCD) Requirements for close coupling installation	UN ECE Regulation No. 102 (section I, p. 5, section II, p. 13)
M1, N1	Replacement emission control devices for power-driven vehicles	UN ECE Regulation No. 103
M2, M3, N, O2, O3, O4	Retro-reflective markings for vehicles of category M, N and O	UN ECE Regulation No. 104
N, O	Vehicles intended for the carriage of dangerous goods	UN ECE Regulation No. 105
M2, M3	Category M2 or M3 vehicles with regard to their general construction	UN ECE Regulation No. 107
M, N	Specific components for compressed natural gas (CNG) and their installation on motor vehicles	UN ECE Regulation No. 110 (part II)
M, N, L, T	Motor vehicle headlamps equipped with bulbs or LED modules and emitting an asymmetrical dipped beam lights or high beam lights	UN ECE Regulation No. 112
L, T	Motor vehicle headlamps emitting a symmetrical dipped beam lights or high beam lights and equipped with bulbs, gas-discharge light sources or LED modules	UN ECE Regulation No. 113
M, N	LPG (liquefied petroleum gases) and CNG (compressed natural gas) retrofit systems	UN ECE Regulation No. 115
M1, N1	Protection of motor vehicles against unauthorized use	UN ECE Regulation No. 116
M3	Burning behaviour of materials used in the interior construction of certain categories of motor vehicles	UN ECE Regulation No. 118
M, N, T	Cornering lamps of motor vehicles	UN ECE Regulation No. 119

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Type of operation: Approval tests of systems, components and separate technical units as well as equipment item and parts		
Category of vehicle	Equipment item or part	Reference document
T	Combustion reciprocating engine	UN ECE Regulation No. 120
M, N	Adaptive front-lighting systems (AFS) for motor vehicles	UN ECE Regulation No. 123
M, N, O, L, T	Light Emitting Diode (LED) light sources for use in approved lamps on power-driven vehicles and their trailers	UN ECE Regulation No. 128
M2, M3, N	Retrofit emission control devices (REC) for heavy duty vehicles, agricultural and forestry tractors and non-road mobile machinery equipped with compression ignition engines	UN ECE Regulation No. 132
M1, N1	Recyclability of motor vehicles	UN ECE Regulation No. 133
L	Power train of electric vehicles	UN ECE Regulation No. 136
M, N, O3, O4	Tyre pressure monitoring systems (TPMS) in light-duty / heavy-duty vehicles	UN ECE Regulation No. 141
N, O	Installation of tires	UN ECE Regulation No. 142
M2, M3, N2, N3	Dual-Fuel Engine Retrofit Systems (HDDF-ERS)	UN ECE Regulation No. 143
M1	An ISOFIX anchorages system, ISOFIX top tether anchorages and i-Size seating positions intended for use with child restraint systems	UN ECE Regulation No. 145
T, R, S	Mechanical coupling components of combinations of agricultural vehicles	UN ECE Regulation No. 147
M, N, O, L, T	Light-Signalling Devices (LSD) for power-driven vehicles and their trailers	UN ECE Regulation No. 148
M, N, L, T	Road Illumination Devices (RID) and systems for power-driven vehicles	UN ECE Regulation No. 149
M, N, O, L, T	Retro-Reflective Devices (RRD) for power-driven vehicles	UN ECE Regulation No. 150
M1, M2, N1, N2	Emissions of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range (WLTP)	UN ECE Regulation No. 154

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Type of operation: Approval tests of the assembly method of the installation adapting a given type of vehicle to run on gaseous fuel	
Category of vehicle	Reference document
M, N	Act of 20 June 1997 - Road Traffic Law
	Regulation of the Minister of Transport, Construction and Maritime Economy of 10 th of May, 2013 on the approval of the assembly method of the installation adapting a given type of vehicle to run on gaseous fuel
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021

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Type of operation: Performance of tests confirming that appropriate technical conditions or requirements for a specific vehicle have been complied with, for the national individual vehicle approval	
Category of vehicle	Reference document
M, N, O, T, L, R, C	Act of 20 June 1997 - Road Traffic Law
	Regulation of the Minister of Transport, Construction and Maritime Economy of 26 th of March, 2013 on individual vehicle approval
	Regulation (EU) No. 2018/858 of the European Parliament and of the Council of 30 th of May, 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No. 715/2007 and (EC) No. 595/2009 and repealing Directive 2007/46/EC
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021

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Type of operation: Performance of tests confirming that appropriate technical conditions or requirements for a specific vehicle have been complied with, for the EU individual vehicle approval	
Category of vehicle	Reference document
M1, N1 and special vehicles M, N, O	Act of 20 June 1997 - Road Traffic Law
	Regulation of the Minister of Transport, Construction and Maritime Economy of 21 th of March, 2013 on the EC individual vehicle approval
	Regulation (EU) No. 2018/858 of the European Parliament and of the Council of 30 th of May, 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No. 715/2007 and (EC) No. 595/2009 and repealing Directive 2007/46/EC
	Procedure BOSMAL/P-1-20/10 of 26 th of April, 2021

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Type of operation: Checking the compliance of the assembly method of the installation adapting a given type of vehicle to run on gaseous fuel

Category of vehicle	Reference document
M, N	Act of 20 June 1997 - Road Traffic Law
	Regulation of the Minister of Transport, Construction and Maritime Economy of 10th of May, 2013 on the approval of the assembly method of the installation adapting a given type of vehicle to run on gaseous fuel
	Instruction BOSMAL/I-1-08/11 of 30 th of May, 2022

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Type of operation: Checking the conformity of production of the vehicle, systems, components and separate technical units as well as parts and equipment	
Category of vehicle	Reference document
M, N, O	Act of 20 June 1997 - Road Traffic Law
	Regulation (EU) No. 2018/858 of the European Parliament and of the Council of 30 th of May, 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No. 715/2007 and (EC) No. 595/2009 and repealing Directive 2007/46/EC
	Regulation of the Minister of Transport, Construction and Maritime Economy of 25 th of March, 2013 on the type approval of motor vehicles and trailers and their equipment and parts
	Instruction BOSMAL/I-1-08/11 of 30 th of May, 2022
T, R, C	Act of 20 June 1997 - Road Traffic Law
	Regulation (EU) No. 167/2013 of the European Parliament and of the Council of 5 th of February, 2013 on the approval and market surveillance of agricultural and forestry vehicles
	Regulation of the Minister of Transport, Construction and Maritime Economy of 18 th of June 2013 on the type approval of agricultural tractors and trailers and the type of their equipment or parts
	Instruction BOSMAL/I-1-08/11 of 30 th of May, 2022
L	Act of 20 June 1997 - Road Traffic Law
	Regulation (EU) No. 168/2013 of the European Parliament and of the Council of 15 th of February, 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles
	Regulation of the Minister of Transport, Construction and Maritime Economy of 17 th of June 2013 on the type approval of motor vehicles with two or three wheels, certain motor vehicles with four wheels, mopeds and their equipment or parts
	Instruction BOSMAL/I-1-08/11 of 30 th of May, 2022
S	Regulation (EU) No. 167/2013 of the European Parliament and of the Council of 5 th of February, 2013 on the approval and market surveillance of agricultural and forestry vehicles
	Instruction BOSMAL/I-1-08/11 of 30 th of May, 2022

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The scope of accreditation No. AB 128 amendments list

The status of amendments:

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