

Deutsche Akkreditierungsstelle GmbH

Appendix to accreditation certificate D-PL-11030-01-00 in accordance with DIN EN ISO/IEC 17025:2018

Valid from: 11.10.2019 Issue date: 11.10.2019

Holder of certificate:

Technologiezentrum SCHÜCO International KG Karolinenstraße 1-15, 33609 Bielefeld

Tests in the areas of:

Mechanical-technological, thermotechnical and building acoustics tests on windows, facades, doors and accessories as well as environmental simulation tests (qualification tests) on technical products and electromagnetic compatibility

For the test areas marked with ^(I), the testing laboratory is permitted to freely select standard test methods or equivalent methods without obtaining prior notification and consent from DAkkS. The test methods listed are given by way of example. The testing laboratory has an up-to-date list of all test methods within the flexible scope of accreditation.

Within the scope of accreditation marked with (II), the testing laboratory is permitted to use the standardised test methods listed here with different revision levels of the standard without prior disclosure to or agreement by DAkkS.

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

Abbreviations used: see last page



1. Acoustics – On components, building elements and buildings(1)(11)

DIN EN ISO 717-1 Acoustics – Rating of sound insulation in buildings and of building

2013-06 elements –

2010-10

2018-02

Part 1: Airborne sound insulation

DIN EN ISO 10052 Acoustics – Field measurements of airborne and impact sound

insulation and of service equipment sound – Survey method (only noises from building service systems in conjunction with DIN

4109-4:2016-07)

DIN EN ISO 10140-1 Acoustics – Laboratory measurement of sound insulation of

2016-12 building elements –

Part 1: Application rules for specific products

(only airborne sound insulation)

DIN EN ISO 10140-2 Acoustics – Laboratory measurement of sound insulation of

2010-12 building elements –

Part 2: Measurement of airborne sound insulation

DIN EN ISO 10140-4 Acoustics – Laboratory measurement of sound insulation of

2010-12 building elements –

Part 4: Measurement procedures and requirements

(only airborne sound insulation)

DIN EN ISO 10140-5 Acoustics – Laboratory measurement of sound insulation of

2014-09 building elements –

Part 5: Requirements for test facilities and equipment

(only airborne sound insulation)

DIN EN ISO 10848-1 Acoustics – Laboratory and field measurement of flanking

transmission for airborne, impact and building service equipment

sound between adjoining rooms -

Part 1: Frame document

(only flanking level differences $D_{n,f}$)

-Translation-



DIN EN ISO 10848-2 2018-02	Acoustics – Laboratory and field measurement of flanking transmission for airborne, impact and building service equipment sound between adjoining rooms – Part 2: Application to Type B elements when the junction has a small influence
DIN EN ISO 10848-3 2018-02	Acoustics – Laboratory and field measurement of flanking transmission for airborne, impact and building service equipment sound between adjoining rooms – Part 3: Application to Type B elements when the junction has a substantial influence
DIN EN ISO 16283-1 2018-04	Acoustics – Field measurement of sound insulation in buildings and of building elements – Part 1: Airborne sound insulation
DIN EN ISO 16283-3 2016-09	Acoustics – Field measurement of sound insulation in buildings and of building elements – Part 3: Facade sound insulation
ASTM E 413 2016-04	Classification for Rating Sound Insulation
ASTM E 1414/E1414M-16 2016-10	Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

	Char. test method				
Test equipment	Measurand	From	То	Size	
Laboratory acoustic	Reverberation time	0.1	10	S	DIN EN ISO 10140-5
noise measurement					
Airborne sound	Rated sound reduction index	0	70	dB	DIN EN ISO 10140-2
insulation	$R_w(C;C_{tr})$				
	Rated sound reduction index	0	40	dB	DIN EN ISO 16283-1
	R _{45°,w} (C;C _{tr}) (laboratory)				
	Rated standard sound level	0	75	dB	DIN EN ISO 10140-2
	difference D _{n,e,w}				
Flanking insulation	Standard flanking sound level	0	75	dB	DIN EN ISO 10848-1
	difference D _{n,f,w}				

-Translation-



2. Component tests(I)(II)

DIN EN 14024 Metal profiles with thermal barrier – Mechanical performance –

2005-01 Requirements, proof and tests for assessment

5.3 Transverse tensile strength Q

5.4 Shear strength T and shear spring stiffness c

5.5.2 Ageing, method 15.6 Characteristic values

PR-0153-05 Determination of composite characteristic values (on composite

2015-08 profiles)

PR-0157-04 Mechanical testing of T-joints

2018-02

PR-0188-03 Creep rupture test (on thermally separated profiles)

2016-04

PR-0212-01 Corner connector test

2015-09

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

	Test area				Char. test method
Test equipment	Measurand	From	То	Size	
Universal testing	Compression/tension	0.1	100	kN	DIN EN 14024
machine static (520x520 mm)	Traverse path	10	700	mm	
Universal testing	Compression/tension	5	50	kN	PR-0212
machine static (820x820 mm)	Traverse path	5	500	mm	
Creep rupture test	Deformation	0	30	mm	DIN EN 14024
equipment	Temperature	20	82	°C	
	Weight	500	2500	g	

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3. Leak tests^{(I)(II)}

DIN EN 1026 2016-09	Windows and doors – Air permeability – Test method
DIN EN 1027 2016-09	Windows and doors – Watertightness – Test method
DIN EN 12152 2002-08	Curtain walling – Air permeability – Performance requirements and classification
DIN EN 12153 2000-09	Curtain walling – Air permeability – Test methods
DIN EN 12154 2000-06	Curtain walling – Watertightness – Performance requirements and classification
DIN EN 12155 2000-10	Curtain walling – Watertightness – Laboratory test under static pressure
DIN EN 12179 2000-09	Curtain walling – Resistance to wind load – Test methods
DIN EN 12207 2017-03	Windows and doors – Air permeability – Classification
DIN EN 12208 2000-06	Windows and doors – Watertightness – Classification
DIN EN 12210 2016-09	Windows and doors – Resistance to wind load –Classification
DIN EN 12211 2016-10	Windows and doors – Resistance to wind load – Test method
DIN EN 13050 2011-09	Curtain walling – Watertightness– Laboratory test under dynamic condition of air pressure and water spray
DIN EN 13051 2001-11	Curtain walling – Watertightness – Site test
DIN EN 13116 2001-11	Curtain walling – Resistance to wind load – Performance requirements

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ASTM E 283 2004-03	Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E 330/E 330M 2014-01	Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E 331 2000-12	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E 547 2000-12	Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference
AAMA 501.1 2017-05	Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
AAMA 501.4 2009-11	Recommended Static Testing Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Interstory Drift
AAMA 501.5 2007-04	Test Method for Thermal Cycling of Exterior Walls
AS/NZS 4420.1 2016-12	Windows, external glazed, timber and composite doors – Methods of Test Part 1: Test sequence, sampling and test methods

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

	Char. test method				
Test equipment	Measurand	From	To	Size	
Laboratory window and	Differential pressure (air)	2	10000	Pa	DIN EN 12211
facade tests		-2	-10000	Pa	
	Pressure (water)	0.5	6	bar	DIN EN 1027
	Volume flow (air)	0.1	1650	m³/h	DIN EN 1026
	Volume flow (water)	0.01	35	m³/h	DIN EN 1027
	Deformation	0.5	150	mm	DIN EN 12211
	Temperature	-20	85	°C	AAMA 501.5
Dynamic facade test	Wind speed	0.5	30	m/s	DIN EN 13050
(building)				,	
Dynamic facade test (propeller)	Wind speed	22	40	m/s	AAMA 501.1

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	Char. test method				
Test equipment	Measurand	From	To	Size	
Seismic test (earthquake	Path	0.5	150	mm	AAMA 501.4
simulation stat.)					

4. Service life tests(I)(II)

DIN EN 1191 Windows and doors – Resistance to repeated opening and closing –

2013-04 Test method

AAMA 910-16 Voluntary Life Cycle Specifications and Test Methods for AW Class

2016-03 Architectural Windows and Doors

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

Test area					Char. test method
Test equipment	Measurand	From	To	Size	
Resistance to repeated	Force	10	200	N	DIN EN 1191
opening and closing test	Torque	1	25	Nm	
equipment	Speed	0.1	0.6	m/s	

5. Mechanical tests(I)(II)

DIN EN 947 Hinged or pivoted doors – Determination of the resistance to vertical

1999-05 load

DIN EN 948 Hinged or pivoted doors – Determination of the resistance to static

1999-11 torsion

DIN EN 12046-1 Operating forces – Test method – Part 1: Windows

2004-04

DIN EN 12046-2 Operating forces – Test method – Part 2: Doors

DIN EN 13049 Windows – Soft and heavy body impact – Test method, safety

2003-08 requirements and classification

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2000-12



DIN EN 14608 Windows – Determination of the resistance to racking

2004-09

DIN EN 14609 Windows – Determination of the resistance to static torsion

2004-09

DIN EN 14019 Curtain walling – Impact resistance – Performance requirements

2016-11

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

	Test area				Char. test method
Test equipment	Measurand	From	То	Size	
Mechanical tests	Weight	50	2000	kg	DIN EN 14608
	Force	10	20000	N	DIN EN 14609
	Deformation	0.001	150	mm	
Pendulum impact	Weight	0.5	50	kg	DIN EN 13049
	Height of drop	100	1200	mm	
	Air pressure	1.2	12	bar	

6. Security tests(I)(II)

DIN EN 1627 2011-09	Pedestrian doorsets, windows, curtain walling, grilles and shutters – Burglar resistance – Requirements and classification
DIN EN 1628 2011-09	Pedestrian doorsets, windows, curtain walling, grilles and shutters – Burglar resistance – Test method for the determination of resistance under static loading
DIN EN 1629 2011-09	Pedestrian doorsets, windows, curtain walling, grilles and shutters – Burglar resistance – Test method for the determination of resistance under dynamic loading
DIN EN 1630 2011-09	Pedestrian doorsets, windows, curtain walling, grilles and shutters – Burglar resistance – Test method for the determination of resistance to manual burglary attempts
DIN 18008-4 2013-07	Glass in building – Design and construction rules – Part 4: Additional requirements for barrier glazing

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

Test area	Char. test method

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Test equipment	Measurand	From	То	Size	
Dynamic burglary test	Weight	0.1	50	kg	DIN EN 1629
	Height of drop	100	1200	mm	
	Air pressure	1.2	12	bar	
Static burglary test	Force	1	20	kN	DIN EN 1628
	Time	0	900	S	
	Air pressure	1.2	12	bar	

7. Environmental simulation tests(I)(II)

DIN EN ISO 4892-2 2013-06	Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps
DIN EN ISO 4892-3 2016-10	Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps
DIN EN ISO 6270-2 2018-04	Paints and varnishes – Determination of resistance to humidity – Part 2: Procedure for exposing test specimens in condensation-water atmospheres
DIN EN ISO 9227 2017-07	Corrosion tests in artificial atmospheres – Salt spray tests
DIN EN ISO 16474-3 2014-03	Paints and varnishes – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps, Type 1A
DIN EN 1121 2000-09	Doors – Behaviour between two different climates
DIN EN 13420 2011-06	Windows – Behaviour between different climates – Test method
DIN EN 60529 2014-09	Degrees of protection provided by enclosures (IP Code)
DIN 53508 2000-03	Testing of rubber – Accelerated ageing – Test in accordance with 4.1.1
PR-0183-10 2018-05	Storage in condensation water atmosphere and salt spray
PR-0184-08 2019-01	Weathering (surfaces)
PR-0185-02 2011-12	Ageing

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PR-0225-00 2014-03

Behaviour between different climates windows / doors

In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

equivalent test methods a	Char. test method				
Test equipment	Measurand	From	То	Size	
Laboratory corrosion	Temperature	25	50	°C	DIN EN ISO 6270-2
testing	Humidity	10	90	%rF	
AASS	pH value	3.1	3.3	рН	DIN EN ISO 9227
(750x750x350 mm)	pH value	6.5	7.2	рН	
NSS	Salt content		50	g/l	
(1080x680x600 mm;					
1560x570x350 mm)					
Laboratory ageing test equipment	Temperature	70	100	°C	DIN 53508
Laboratory weathering	Sample space temperature	20	80	°C	DIN EN ISO 4892-2
test – Xenon (air-cooled	Relative humidity	10	95	%rF	
xenon spotlight)	White standard	60	120	°C	
	temperature				
	Wavelength range of control	300	400	nm	
	Irradiance (300 -400 nm)	45	120	W/m ²	
	Irradiance (300 - 800 nm)	244	1172	W/m ²	-
Laboratory weathering	Sample space temperature	50	70	°C	DIN EN ISO 4892-3
test – QUV (lamp type UVA)	sample space temperature	30	, 0		DIV 21V 130 1032 3
Behaviour between	Temperature outside	-60	90	°C	DIN EN 1121
different climates	Temperature change	0	±2.8	K/min	DIN EN 13420
chamber (3000x3000	outside				
mm²)	Temperature inside	10	90	°C	
	Temperature change inside	0	±0.5	K/min	
	Temperature constancy	0	±0.5	K	
	Humidity without thermal load	10	95	%rF	
	Humidity constancy	0	±0.5	%rF	
	Dew point temperature	5	89	°C	1
Climate chambers	Temperature	-70	150	°C	PR-0243
(max 1500x2200x1100	Humidity	10	95	%rF	1
mm; max floor load 150	Humidity constancy	0	5	%rF	1
kg)	Dew point temperature	5	85	°C	
	Temperature change	0	1.8	K/min	
	heating up				

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	Char. test method				
Test equipment	Measurand	From	То	Size	
	Temperature change	0	1.3	K/min	
	cooling down				
Test equipment	Measurand	From	To	Size	
Climate chambers	Temperature	-60	120	°C	PR-0243
(max 1050x2050x1250	Humidity	10	98	%rF	
mm; max floor load 500	Humidity constancy	0	3	%rF	
kg)	Dew point temperature	4	89	°C	
	Temperature change	0	11	K/min	
	heating up				
	Temperature change	0	8	K/min	
	cooling down				
Climate chambers	Temperature	-42	180	°C	PR-0243
(max 500x450x600 mm;	Humidity	10	98	%rF	
max floor load 30 kg)	Humidity constancy	0	3	%rF	
	Dew point temperature	3	94	°C	
	Temperature change	0	3.2	K/min	
	heating up				
	Temperature change	0	4	K/min	
	cooling down				
IP protection test	Water flow	0.05	5	I/min	DIN EN 60529
benches		2	20	l/min	
	Air flow	40	600	I/min	DIN EN 60529

8. Thermal tests(I)(II)

DIN EN ISO 12567-1 Thermal performance of windows and doors – Determination of 2010-12 thermal transmittance by the hot-box method - Part 1: Complete windows and doors **DIN EN ISO 12567-2** Thermal performance of windows and doors – Determination of 2006-03 thermal transmittance by the hot-box method – Part 2: Roof windows and other projecting windows DIN EN 12412-2 Thermal performance of windows, doors and shutters – Determination 2003-11 of thermal transmittance by hot box method -Part 2: Frames PR-0190-05 Thermal transmittance (windows and doors) 2017-02

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In the test areas listed, the characteristic test methods for the free selection of standardised or equivalent test methods are shown.

Test area					Char. test method
Test equipment	Measurand	Fro	То	Size	
		m			
Laboratory differential	Thermal transmittance	0.1	10	W/m ² K	DIN EN 12412-2
heat test					
Max installation					
dimension					
1230x1480x240 mm					

9. Electromagnetic compatibility(II)

Technic al field	Standard or in-house method / revision level		Test method limitations					
	Basic standards							
EMC	DIN EN 61000-4-2 2009-12	Electromagnetic compatibility (EMC) — Part 4-2: Testing and measurement techniques — Electrostatic discharge immunity test (IEC 61000-4-2:2008); German version EN 61000-4-2:2009 EN 61000-4-2:2009						
Livie	DIN EN 61000-4-4 2013-04	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test (IEC 61000-4-4:2012); German version EN 61000-4-4:2012	Restriction: No testing on signal and control connections using a conductive tape or metal foil					
	DIN EN 61000-4-5 2015-03	Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test (IEC 61000-4-5:2005); German version EN 61000-4-5:2006	(Restriction: No three-phase networks Single-phase networks only with 230V, ≤ 16A and					
EMC			50Hz					

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Technic al field	Standard or in-house method / revision level	Title of standard or in-house method	Test method limitations
	DIN EN 61000-4-6 2014-08	Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:2008); German version EN 61000-4-6:2009	(Restriction: No multi-phase networks, no tests using a current clamp
EMC	DIN EN 61000-4-11 2005-02	Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11:2004); German version EN 61000-4-11:2004	(Restriction: Only single-phase networks with 230 V, ≤ 16 A and 50 Hz No voltage fluctuations
	DIN EN 61000-4-292001- 10	Electromagnetic compatibility (EMC) – Part 4-29: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests (IEC 61000-4-29:2000); German version EN 61000-4-29:2000	(Restriction: Tests with ≤ 16 A
		Generic standards	
	DIN EN 61000-6-1 2007-10	Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light- industrial environments (IEC 61000-6- 1:2005); German version EN 61000-6- 1:2007	(Restriction: No tests in accordance with: DIN EN 61000-4-3 DIN EN 61000-4-8 DIN EN 61000-4-20
	DIN EN 61000-6-2 2006-03	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005	(Restriction: No tests in accordance with: DIN EN 61000-4-3 DIN EN 61000-4-8 DIN EN 61000-4-20

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Technic al field	Standard or in-house method / revision level	Title of standard or in-house method	Test method limitations					
EMC	DIN EN 61000-6-3 2011-09	Electromagnetic compatibility (EMC) – Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (IEC 61000- 6-3:2006 + A1:2010); German version EN 61000-6-3:2007 + A1:2011	(Restriction: No testing of radiated interference emission No tests in accordance with: DIN EN 61000-3-3 DIN EN 61000-3-11 DIN EN 61000-4-20					
	DIN EN 61000-6-4 2011-09	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments (IEC 61000-6-4:2006 + A1:2010); German version EN 61000-6-4:2007 + A1:2011	(Restriction: No testing of radiated interference emission No tests in accordance with: DIN EN 61000-3-3 DIN EN 61000-3-11 DIN EN 61000-4-20					
ЕМС	DIN EN 61000-6-7 2015-05	Electromagnetic compatibility (EMC) — Part 6-7: Generic standards — Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations (IEC 61000-6-7:2014); German version EN 61000-6-7:2015	Restriction: No tests in accordance with: DIN EN 61000-4-3, DIN EN 61000-4-16, DIN EN 61000-4-34					
	Product family standard							
EMC	DIN EN 55016-2-1 2014-12	Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements (CISPR 16-2-1:2008 + A1:2010); German version EN 55016-2-1:2009 + A1:2011	(Restriction: Only single-phase networks with 230 V, ≤ 16 A and 50 Hz, as well as low- voltage DC networks with ≤ 16 A					

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Technic al field	Standard or in-house method / revision level	Title of standard or in-house method	Test method limitations
	DIN EN 55011 2011-04	Industrial, scientific and medical equipment - Radio frequency disturbance characteristics - Limits and methods of measurement (IEC/CISPR 11:2009, modified + A1:2010); German version EN 55011:2009 + A1:2010	(Restriction: No testing of radiated interference emission Only single-phase networks with 230 V, ≤ 16 A and 50 Hz, as well as low- voltage DC networks with ≤ 16 A
	DIN EN 55014-1 2012-05	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission (CISPR 14-1:2005 + A1:2008 + Cor. :2009 + A2:2011); German version EN 55014-1:2006 + A1:2009 + A2:2011	(Restriction: No testing of radiated interference emission Only single-phase networks with 230 V, ≤ 16 A and 50 Hz, as well as low- voltage DC networks with ≤ 16 A
ЕМС	DIN EN 55014-2 2016-01	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard (CISPR 14-2:2015); German version EN 55014-2:2015	(Restriction: No tests in accordance with: DIN EN 61000-4-3, DIN EN 61000-4-22
	DIN EN 55022 2011-12	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement (CISPR 22:2008, modified); German version EN 55022:2010	(Restriction: No testing of radiated interference emission Only single-phase networks with 230 V, ≤ 16 A and 50 Hz, as well as low- voltage DC networks with ≤ 16 A

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Technic al field	Standard or in-house method / revision level	Title of standard or in-house method	Test method limitations
	DIN EN 55024 2016-05	Information technology equipment – Immunity characteristics – Limits and methods of measurement (CISPR 24:2010); German version EN 55024:2010	(Restriction: No tests in accordance with: DIN EN 61000-4-3 DIN EN 61000-4-8
	DIN EN 55032 2016-02	Electromagnetic compatibility of multimedia equipment – Emission requirements (CISPR 32:2015); German version EN 55032:2015	(Restriction: Tests of radiated disturbance emission only single-phase 230 V networks less than or equal to 16 A and 50 Hz and low-voltage DC networks less than or equal to 16 A
	DIN EN 55035 2018-04	Electromagnetic compatibility of multimedia equipment – Immunity requirements (CISPR 35:2016, modified); German version EN 55035:2017	(Restriction: No tests in accordance with: DIN EN 61000-4-3 DIN EN 61000-4-8 DIN EN 61000-4-20 DIN EN 61000-4-21
	DIN EN 60335-1 2012-10	Household and similar electrical appliances – Safety Part 1: General requirements (IEC 60335-1:2010, modified); German version EN 60335-1:2012	(Restriction: Parts 19.11.4.1, 19.11.4.3 to 19.11.4.6 and 19.11.4.8 are applicable
	DIN EN 60335-2-103	Household and similar electrical appliances – Safety Part 2-103: Particular requirements for drives for gates, doors and windows (IEC 60335-2-103:2006, modified + A1:2010, modified); German version EN 60335-2-103:2015	

Abbreviations used:

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AAMA American Architectural Manufacturers Association

AS/NZS Australian/New Zealand Standard

ASTM American Society for Testing and Materials PR-0000-00 In-house method of SCHÜCO International KG

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