

UL International Italia Srl Via delle Industrie, 6 20061 Carugate MI	Numero di accreditamento: 1363 Sede A
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ELENCO PROVE ACCREDITATE - CATEGORIA: 0

Alarm systems

Denominazione della prova / Campi di prova

Metodo di prova

Electromagnetic compatibility - Immunity requirements

EN 50130-4:2011 + A1:2014

Alimentatori a bassa tensione con uscita in corrente continua / Low-Voltage power supplies, d.c. Output

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 61204-3:2011 (ed.2); EN 61204-3:2000

Apparati radio e apparati ausiliari/Radio and ancillary equipment

Denominazione della prova / Campi di prova

Metodo di prova

Compatibilità elettromagnetica e questioni relative allo spettro delle radiofrequenze (ERM); compatibilità elettromagnetica (EMC) per apparecchiature e servizi radio; Parte 1: Requisiti tecnici comuni / Electromagnetic compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirement (f min = 9 kHz f max = 18 GHz)

ETSI EN 301 489-1 V1.9.2:2011 escl. 9.6, Annex B

Misura di emissione di spurie dei ricevitori / Receiver spurious emission (Intervallo operativo di frequenza: f min = 9 kHz f max = 18 GHz/ Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

ETSI EN 300 220-1 V2.4.1:2012, ETSI EN 300 220-2 V2.4.1:2012, ETSI EN 300 328 V1.9.1:2015, ETSI EN 300 330-1 v1.8.1:2015, ETSI EN 300 330-2 v1.6.1:2015, ETSI EN 300 440-1 V1.6.1:2010, ETSI EN 300 440-2 V1.4.1:2010, ETSI EN 301 511 V9.0.2:2003, ETSI TS 151 010-1 V4.9.0 :2002

Misura di emissione di spurie dei trasmettitori/Transmitter spurious emission (Intervallo operativo di frequenza: f min = 9 kHz f max = 18 GHz/ Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

ETSI EN 300 220-1 V2.4.1:2012, ETSI EN 300 220-2 V2.4.1:2012, ETSI EN 300 328 V1.9.1:2015, ETSI EN 300 330-1 v1.8.1:2015, ETSI EN 300 330-2 v1.6.1:2015, ETSI EN 300 440-1 V1.6.1:2010, ETSI EN 300 440-2 V1.4.1:2010, ETSI EN 301 511 V9.0.2:2003, ETSI TS 151 010-1 V4.9.0 :2002

Apparati radio e apparati ausiliari/Radio and ancillary equipment (Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz)

Denominazione della prova / Campi di prova

Metodo di prova

Compatibilità elettromagnetica e questioni relative allo spettro delle radiofrequenze (ERM); compatibilità elettromagnetica (EMC) per apparecchiature e servizi radio; Parte 3: Condizioni specifiche per dispositivi a breve portata (SRD) operanti su frequenze tra 9 kHz e 246 GHz /Electromagnetic compatibility and Radio spectrum Matters (ERM);ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz (f min = 9 kHz f max = 18 GHz)

ETSI EN 301 489-3 V1.6.1:2013

Apparecchi di illuminazione / Lighting Equipment

Denominazione della prova / Campi di prova

Metodo di prova

Esposizione umana ai campi elettromagnetici / Human exposure to electromagnetic fields

IEC 62493:2015 (ed.2); EN 62493:2015

Apparecchi di illuminazione e apparecchi analoghi / Lighting Equipment and similar equipment

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements

CISPR 15:2013 +A1:2015 (ed.8.1); EN 55015: 2013 + a1:2015

Prove di immunità / Immunity tests

IEC 61547:2009 (ed.2); EN 61547:2009

Apparecchi elettrici di misura, controllo e per utilizzo in Laboratorio / Electrical equipment for measurement, control and laboratory use

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 61326-1: 2012 (ed.2); EN 61326-1:2013

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Apparecchi Elettromedicali / Medical Electrical Equipment

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 60601-1-2: 2007 (ed.3); EN 60601-1-2:2007+AC:2010

Apparecchi per la tecnologia dell'informazione / Information technology equipment

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements

CISPR 22: 2008(ed.6); EN 55022: 2010+ AC: 2011

Apparecchi per la tecnologia dell'informazione / Information technology equipment

Denominazione della prova / Campi di prova

Metodo di prova

Prove di immunità / Immunity tests

CISPR 24:2010 +A1:2015 (ed.2.1); EN 55024:2010

Apparecchiatura per la saldatura ad arco / Arc welding equipment

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 60974-10:2014 + A1:2015 (ed.3.1)
EN 60974-10:2014 + A1:2015

Apparecchiature assiemate di protezione e di manovra per bassa tensione (quadri BT) / Low-voltage switchgear and controlgear assemblies

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 61439-1:2011 (ed.2); EN 61439-1:2011

Apparecchiature elettriche ed elettroniche (radiatori non intenzionali) / Electric and electronic equipment (unintentional radiators)

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements (Intervallo operativo di frequenza: f min = 9 kHz f max = 18 GHz/ Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

FCC CFR 47 Part 15 Subpart B ANSI C63.4-2014

Apparecchiature elettriche ed elettroniche / Electric and electronic equipment

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements (Intervallo operativo di frequenza: f min = 9 kHz f max = 18 GHz/ Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

FCC CFR 47 Part 18; FCC/OST MP-5:1986

Prova di immunità a fluttuazioni di tensione / Voltage fluctuations immunity test

IEC 61000-4-14:1999+A1:2001+A2:2009 (ed.1.2); EN 61000-4-14:1999+A1:2004+A2:2009

Prova di immunità a onde oscillatorie / Ring wave immunity test

IEC 61000-4-12:2006 (ed.2); EN 61000-4-12:2006

Prova di immunità ai buchi di tensione, alle brevi interruzioni e alle variazioni di tensione sulle porte di alimentazione a tensione continua / Voltage dips, short interruptions and voltage variations on d.c. Input power ports, immunity tests

IEC 61000-4-29:2000(ed.1) ; EN 61000-4-29:2000

Prova di immunità ai campi magnetici a frequenza di rete / Power frequency magnetic field immunity test

IEC 61000-4-8:1993 +A1:2000; EN 61000:1993+ A1:2001; IEC 61000-4-8:2009 ; EN 61000:2010

Prova di immunità ai disturbi condotti di modo comune (0Hz to 150kHz)

IEC 61000-4-16:1998+A1:2001+A2:2009 (ed.1.2); EN 61000-4-16:1998+A1:2004+A2:2011

Prova di immunità alle variazioni della frequenza di alimentazione / variation of power frequency, immunity test

IEC 61000-4-28:1999+A1:2001+A2:2009 (ed.1.2); EN 61000-4-28:2000+A1:2004+A2:2009

Apparecchiature elettriche ed elettroniche per gli ambienti industriali / Electric and electronic equipment for industrial environments

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements

IEC 61000-6-4:2006+A1:2010 (ed.2.1) ; EN 61000-6-4:2007+A1:2011

Prove di immunità / Immunity tests

IEC 61000-6-2:2005 (ed.2) ; EN 61000-6-2:2005

Apparecchiature elettriche ed elettroniche per gli ambienti residenziali, commerciali e dell'industria leggera / Electric and electronic equipment for residential, commercial and light-industrial environments

Denominazione della prova / Campi di prova

Metodo di prova

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Misure di emissione / Emission measurements	IEC 61000-6-3:2006+A1:2010 (ed.2.1) ; EN 61000-6-3:2007+A1:2011+ AC:2012
Prove di immunità / Immunity tests	IEC 61000-6-1:2005 (ed.2); EN 61000-6-1:2007
Apparecchiature multimediali / Multimedia Equipment	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
Misure di emissione / Emission measurements	CISPR 32:2015 (ed.2); EN 55032:2012+AC:2013 Esclusi ricevitori broadcast e apparecchi audio/video / Excluded broadcast receiver and audio/video equipment
Automatic disconnection device between a generator an the public low-voltage grid	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
- Functional safety (par.6.1); - Switch-on condition (par.6.2) - Voltage monitoring (par.6.3); - Frequency monitoring (par.6.4); - Direct current monitoring (par.6.5); - Detection of island operation (par.6.6);	DIN VDE V 0126-1-1 (VDE V 0126-1-1):2013-08
Azionamenti elettrici a velocità variabile / Adjustable speed electrical power drive systems	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
Misure di emissione e prove di immunità / Emission measurements and immunity tests	IEC 61800-3:2004 + A1:2011 (ed.2.1); EN 61800-3:2004 + A1:2012
Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
- Unintentional islanding test (par.5.7.1) (<120kVA)	IEEE 1547.1:2005
Degrees of protection provided by enclosures	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
12 Tests for protection against access to hazardous parts indicated by the first; 13 Tests for protection against solid foreign objects indicated by the first characteristic numeral; 14 Tests for protection against water indicated by the second characteristic numeral; 15 Tests for protection against access to hazardous parts indicated by the additional letter; characteristic numeral	IEC 60529:2013; EN 60529:1991 + A1:2000 + A2:2013
Electric and electronic equipment	
<i>Denominazione della prova / Campi di prova</i> <i>Metodo di prova</i>	
Electrical fast transient / burst immunity test	IEC 61000-4-4:2012, EN 61000-4-4:2012
Electrostatic discharge immunity test	IEC 61000-4-2:2008, EN 61000-4-2:2009
Immunity to conducted disturbances, induced by radio-frequency fields	IEC 61000-4-6:2013, EN 61000-4-6:2014
immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz	IEC 61000-4-16:2015 (ed.2.0) EN 61000-4-16:2016 (only Table 1 - continuous disturbance)
Immunity to conducted, differential mode disturbances and signalling in the frequency range 2 kHz to 150 kHz at a.c. power ports	IEC 61000-4-19:2014 (ed.1.0) EN 61000-4-19:2014
Radiated, radio-frequency, electromagnetic field immunity test	IEC 61000-4-3:2006 + A1:2007 + A2:2010, EN 61000-4-3:2006 + A1:2008 + IS1:2009 + A2:2010
Surge immunity test	IEC 61000-4-5:2014, EN 61000-4-5:2014
Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	IEC 61000-4-13:2002 + A1:2009 + A2:2015 (ed. 1.2); EN 61000-4-13:2002 + A1:2009
Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests	IEC 61000-4-11:2004; EN 61000-4-11:2004

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Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current more than 16 A per phase	IEC 61000-4-34:2005 + A1:2009; EN 61000-4-34:2007 + A1:2009
Electric and electronic equipment for residential, commercial and industrial environments <i>Denominazione della prova / Campi di prova</i> immunity requirements	<i>Metodo di prova</i> IEC 61000-6-2:2016 (ed.3.0)
Electric and electronic equipment for residential, commercial and light-industrial environments <i>Denominazione della prova / Campi di prova</i> immunity requirements	<i>Metodo di prova</i> IEC 61000-6-1:2016 (ed.3.0)
Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current ≤ 75 A and subject to conditional connection <i>Denominazione della prova / Campi di prova</i> - Voltage changes, voltage fluctuations and flicker measurement	<i>Metodo di prova</i> IEC 61000-3-11:2000, EN 61000-3-11:2000
Electromagnetic compatibility (EMC) - Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤ 75 A per phase) <i>Denominazione della prova / Campi di prova</i> - Harmonic current measurement	<i>Metodo di prova</i> IEC 61000-3-12:2011, EN 61000-3-12:2011
Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) <i>Denominazione della prova / Campi di prova</i> - Harmonic current measurement	<i>Metodo di prova</i> IEC 61000-3-2:2014, EN 61000-3-2:2014
Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection <i>Denominazione della prova / Campi di prova</i> - Voltage changes, voltage fluctuations and flicker measurement	<i>Metodo di prova</i> IEC 61000-3-3:2013, EN 61000-3-3:2013
Elettrodomestici, utensili elettrici e apparecchi similari / Household appliances, Electric tools and similar apparatus <i>Denominazione della prova / Campi di prova</i> Misure di emissione / Emission measurements Prove di immunità / Immunity tests	<i>Metodo di prova</i> CISPR 14-1:2005+A1:2008+A2:2011 (ed.5.2); EN 55014-1 :2006+A1:2009+A2:2011 CISPR 14-2:2015 (ed.2); EN 55014-2:2015
Ensayos de detección de funcionamiento en isla de múltiples inversores fotovoltaicos conectados a red en paralelo / Performance tests for islanding detection of multiple grid-connected photovoltaic inverters in parallel <i>Denominazione della prova / Campi di prova</i> - Procedure of evaluation (par.4)	<i>Metodo di prova</i> UNE 206006 IN:2011
Erection of electrical installations with rated voltages up to AC 1000 V and DC 1500 V - Part 4-712: Photovoltaic power-systems - Erection and safety requirements systems <i>Denominazione della prova / Campi di prova</i> - Functional safety (Annex A.3.1); - Voltage monitoring (Annex A.3.2); - Frequency monitoring (Annex A.3.3); - Direct current monitoring (Annex A.3.4); - Detection of island operation (Annex A.3.5); - Residual current monitoring (Annex A.3.6)	<i>Metodo di prova</i> OVE/ONORM E 8001-4-712:2009
Fire hazard testing <i>Denominazione della prova / Campi di prova</i> Glowing-hot-wire based test methods – Glow-wire apparatus and common test procedure Glowing-hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials	<i>Metodo di prova</i> IEC 60695-2-10:2013 IEC 60695-2-12:2010

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Glowinghot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials	IEC 60695-2-13:2010
Glowinghot-wire based test methods –Glow-wire flammability test method for end products	IEC 60695-2-11:2000
Test flames – 50 W horizontal and vertical flame test methods	IEC 60695-11-10:2013
Test flames – Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	IEC 60695-11-5: 2004
gird connected converters	
<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
Annex B - Test on inverters for indirectly connected power systems	CEI 0-21:2016-07
Appendix B (Power factor test), Appendix C (Harmonic current limit test), Appendix D (Transient voltage limit test), Appendix E (DC injection test), Appendix F (Active anti-islanding test), Appendix G (Voltage and frequency limits (Passive anti-islanding protection) test), Appendix H (Limits for sustained operation) , Appendix I (Demand and power quality response mode testing including disconnection on external signal, Appendix J (Multiple inverter testing)	AS/NZS 4777.2:2015
<ul style="list-style-type: none"> - Tolerance of Frequency and Voltage Deviations (par.5); - Frequency Response (par.6); - Reactive Power Capabilities (par.7); - Reactive Power and Voltage Control Functions (par.8); - Power Quality (par.9); - Protection and Fault levels (par.10); - Active Power Constraint Functions (par.11) 	GRID CONNECTION CODE FOR RENEWABLE POWER PLANTS (RPPs) CONNECTED TO THE ELECTRICITY TRANSMISSION SYSTEM (TS) OR THE DISTRIBUTION SYSTEM (DS) IN SOUTH AFRICA (Version 2.8 - 2014)
Grid integration of generator plants - Low-Voltage- Test requirements for generator units to be connected to and operated in parallel with low-Voltage distribution networks	
<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Rapid Voltage changes (par.5.1.2) - Flicker (par.5.1.3) -Harmonics and inter-harmonics (par 5.1.4) - Proof of the symmetrical behavior of rotary current converter units (par.5.2) -Proof of the behavior of the generation unit on the grid (par. 5.3) - Proof of NS protection (par. 5.4) - Connection conditions and synchronization (par. 5.5) (Tutto) 	DIN V VDE V 0124-100:2012
Grid interconnection of embedded generation - Part 2: Small-scale embedded generation - Section 1: Utility interface	
<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Flicker (par.4.1.3); - Harmonics and waveform distortion (par.4.1.6); - Power factor (par.4.1.7); - Synchronization (par.4.1.8); - Overvoltage and undervoltage (par.4.2.2.3.2); - Overfrequency and underfrequency (par.4.2.2.3.3); - Prevention of islanding (par.4.2.2.4); - DC current injection (par.4.2.2.5) 	NRS 097-2-1:2010
Household and similar electrical appliances - Safety - Part 2-100: Particular requirements for hand-held mains-operated garden blowers, vacuums and blower vacuums	
<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards	IEC 60335-2-100:2002 (ed.1)

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Household appliances, electric tools and similar apparatus

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements

CISPR 14-1:2016 (ed.6.0) + COR1:2016

Industrial, Scientific and Medical (ISM) Radio Frequency Generators

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements

ICES-001 (Issue 4, June 2006)

Industrial, scientific and medical equipment

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements

CISPR 11:2015 + A1:2016 (ed.6.1)
EN 55011:2016

Misure di emissione / Emission measurements

CISPR 11:2009+A1:2010 (ed.5.1); EN 55011:2009+A1:2010

Information Technology Equipment (Including Digital Apparatus)

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements

ICES-003 (Issue 6, January 2016)

Interruttori automatici / Circuit-breakers

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione e prove di immunità / Emission measurements and immunity tests

IEC 60947-2:2006 + A1:2009 + A2:2013 (ed.4.2); EN 60947-2:2006 + A1:2009 + A2:2013 (allegati F e J / Annexes F and J)

Interruttori differenziali (RCD) per usi domestici e similari / Residual current-operated protective device (RCDs) for household and similar use

Denominazione della prova / Campi di prova

Metodo di prova

Prove di immunità / Immunity tests

IEC 61543:1995 + A1:2004 + A2:2005 (ed.1.2); EN 61543:1995 + AC:1997 + A11:2003 + A11:2003/AC:2004 + A12:2005 + A2:2006

Low-Voltage power supplies, d.c. Output

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements and immunity tests

IEC 61204-3:2016

Low-voltage switchgear and controlgear – Circuit-breakers

Denominazione della prova / Campi di prova

Metodo di prova

Emission measurements and immunity tests (Annexes F.4, F.5 and J)

IEC 60947-2:2016 + COR1:2016 (ed.5.0)

Macchine utensili / Machine tools

Denominazione della prova / Campi di prova

Metodo di prova

Misure di emissione / Emission measurements

EN 50370-1:2005

Prove di immunità / Immunity tests

EN 50370-2:2003

Metodi di misura dei campi elettromagnetici degli apparecchi elettrodomestici e similari in relazione all'esposizione umana

Denominazione della prova / Campi di prova

Metodo di prova

5.5.2 - Time domain evaluation of magnetic fields, 5.5.3 - Line spectrum evaluation, 5.5.4 - Simplified test methods

IEC 62233:2005 (ed.1); EN 62233:2008

Photovoltaic (PV) systems - Characteristics of the utility interface

Denominazione della prova / Campi di prova

Metodo di prova

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- Voltage, current and frequency (par.4.1);
- Normal voltage operating range (par.4.2);
- Flicker (par.4.3);
- DC injection (par.4.4);
- Normal frequency operating range (par.4.5);
- Harmonics and waveform distortion (par.4.6);
- Power factor (par.4.7);
- Loss of utility voltage (par.5.1);
- Over/under voltage and frequency (par.5.2);
- Islanding protection (par.5.3);
- Response to utility recovery (par.5.4) (Tutto tranne 5.5, 5.6, 5.7)

IEC 61727:2004;
EN 61727:1995

Photovoltaic systems - Power conditioners - Procedure for measuring efficiency

Denominazione della prova / Campi di prova

Metodo di prova

- Efficiency measurement (par.4,5,6);
- Loss measurements (par.7) (Tutto)

IEC 61683:1999;
EN 61683:2000

Power generation systems connected to the low-voltage distribution network - Technical minimum requirements for the connection to and parallel operation with low-voltage distribution networks.

Denominazione della prova / Campi di prova

Metodo di prova

Vedere dettagli della norma DIN V VDE V 0124-100:2012 (Tutto)

VDE-AR-N 4105:2011

Procedimento de ensaio de anti-ilhamento para inversores de sistemas fotovoltaicos conectados à rede elétrica / Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters

Denominazione della prova / Campi di prova

Metodo di prova

- Test for single or multi-phase inverter (par.6)

ABNT NBR IEC 62116:2012

Radio and ancillary equipment

Denominazione della prova / Campi di prova

Metodo di prova

Receiver spurious emission (Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

ETSI EN 300 328 V2.1.1 (2016)

Transmitter spurious emission (Operating frequency range: f min = 9 kHz f max = 18 GHz) (f min = 9 kHz f max = 18 GHz)

ETSI EN 300 328 V2.1.1 (2016)

Radio Equipment (Broadband Data Transmission Systems)

Denominazione della prova / Campi di prova

Metodo di prova

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems (f min = 9 kHz f max = 18 GHz)

ETSI EN 301 489-17 V2.2.1:2012

Radio Equipment (External Power Supply (EPS) for mobile phones)

Denominazione della prova / Campi di prova

Metodo di prova

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 34: Specific conditions for External Power Supply (EPS) for mobile phones

ETSI EN 301 489-34 V1.4.1:2013

Recommendations for the connection of generating plant to the distribution systems of licensed distribution network operators

Denominazione della prova / Campi di prova

Metodo di prova

- Disconnection times (par.13.8.3.1);
- Over / Under Voltage (par.13.8.3.2);
- Over / Under Frequency (par.13.8.3.3);
- Loss of Mains Protection, Inverter connected machines (par.13.8.3.4A);
- Reconnection (par.13.8.3.5);
- Frequency Drift and Step Change Stability test (par.13.8.3.6)
- Harmonics (par.13.8.4.1);
- Power Factor (par.13.8.4.2);
- Voltage Flicker (par.13.8.4.3);
- DC Injection (par.13.8.4.4);
- Over current Protection (par.13.8.3.4.5)
- Short circuit Current Contribution inverter connected Generating Units (par.13.8.4.6A);
- Self Monitoring - Solid State Disconnection (par.13.8.4.7)

ENA G59/3-2:2015

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Recommendations for the Connection of Type Tested Small-scale Embedded Generators (Up to 16A per Phase) in Parallel with Low-Voltage Distribution Systems

Denominazione della prova / Campi di prova

Metodo di prova

- Disconnection times (par.A1.3.1);
- Over / Under Voltage (par.A1.3.2);
- Over / Under Frequency (par.A1.3.3);
- Loss of Mains (LoM) Protection (par.A1.3.4);
- Re-connection (par.A1.3.5);
- Frequency Drift and Step Change Stability test (par.A1.3.6);
- Harmonics (par.A1.4.1);
- Power Factor (par.A1.4.2);
- Voltage Flicker (par.A1.4.3);
- DC Injection (par.A1.4.4);
- Short circuit Current Contribution (par.A1.4.6);
- Self Monitoring - Solid State Disconnection (par.A1.4.7) (Type Verification Functional Testing of the Interface Protection (Appendix A1.3))

ENA G83/2:2012

Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica

Denominazione della prova / Campi di prova

Metodo di prova

- Misura di correnti armoniche (par.N.3.1);
- Misura di fluttuazioni di tensione dovute a manovre di sezionamento/separazione (par.N.3.2);
- Misura di fluttuazioni di tensione (flicker) in condizioni di funzionamento continuo (par.N.3.3);
- Verifica del campo di funzionamento in tensione e frequenza (par.N.4);
- Verifica delle condizioni di sincronizzazione e presa di carico (par.N.5);
- Verifica dei requisiti costruttivi circa lo scambio di potenza reattiva (par.N.6);
- Verifica dei requisiti costruttivi circa la regolazione di potenza attiva (par.N.7);
- Verifica della insensibilità agli abbassamenti di tensione (VFRT capability) (par.N.8);
- Verifica della insensibilità alle richiuse automatiche in discordanza di fase (par.N.9)
- Misura di correnti armoniche (par.Nbis.3.1);
- Misura di fluttuazioni di tensione dovute a manovre di sezionamento/separazione (par.Nbis.3.2);
- Misura di fluttuazioni di tensione (flicker) in condizioni di funzionamento continuo (par.Nbis.3.3);
- Verifica del campo di funzionamento in tensione e frequenza (par.Nbis.4);
- Verifica delle condizioni di sincronizzazione e presa di carico (par.Nbis.5);
- Verifica dei requisiti costruttivi circa lo scambio di potenza reattiva (par.Nbis.6);
- Verifica dei requisiti costruttivi circa la regolazione di potenza attiva (par.Nbis.7);
- Verifica della insensibilità agli abbassamenti di tensione (VFRT capability) (par.Nbis.8);
- Verifica della insensibilità alle richiuse automatiche in discordanza di fase (par.Nbis.9) (<120kVA)

CEI 0-16:2014-09 + V1:2014-12 + V2:2016-07

Requirements for the connection of micro-generators in parallel with public low-voltage distribution networks

Denominazione della prova / Campi di prova

Metodo di prova

- Over / Under Voltage (par.D.2.3);
- Over / Under Frequency (par.D.2.4);
- Loss of Mains (LoM) detection (par.D.2.5);
- Operating range (par.D.3.1);
- Active power feed-in at under-frequency (par.D.3.2);
- Power response to over-frequency (par.D.3.3);
- Reactive power capability (par.D.3.4);
- Connection and starting to generate electrical power (par.D.3.6);
- Short-circuit current contribution (par.D.3.7);
- Harmonic current emission (par.D.3.8);
- Voltage fluctuations and flicker (D.3.9);
- DC injection (par.D.3.10)

EN 50438:2013

Requisitos de conexi3n a la red el3ctrica – Parte 1: Inversores para conexi3n a la red de distribuci3n / Requirements for connecting to the power system. Part 1: Grid-connected inverters

Denominazione della prova / Campi di prova

Metodo di prova

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- Injection of direct current to main supply (par. 5.1);
- Behavior under isolation failure (par. 5.2);
- Detection of fault currents in the PV generator (par. 5.3);
- Disconnection due voltage and frequency (par. 5.4);
- Automatic reconnection (par. 5.5);
- Detection of island operation (par. 5.6);
- Generation surges (par. 5.7);
- Network quality (par. 5.8);
- Reconnection out of sync (par. 5.9)

UNE 206007-1 IN:2013

Sicurezza degli apparati di conversione di potenza utilizzati in impianti fotovoltaici di Potenza. Parte 1: Prescrizioni generali

Denominazione della prova / Campi di prova

Metodo di prova

4 General testing requirements, 5 -Marking and documentation, 6 - Environmental requirements and conditions, 7 -Protection against electric shock and energy hazards, 8 - Protection against mechanical hazards, 9 Protection against fire hazards, 10 - Protection against sonic pressure hazards, 11 - Protection against liquid hazards, 12 - Chemical hazards, 13 Physical requirements, 14 - Components (eccetto 8.4, 8.5)

EN 62109-1: 2010 (ed.1.0) IEC 62109-1: 2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 1: Norme generali

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 22.16, 22.32, Annex F)

IEC 60335-1:2004 (ed.4) +A1:2004 +A2:2006; EN 60335-1:2002 +A1:2004 +A2:2006 +A11:2004 +A12:2006 +A13:2008 +A14:2010 +A15:2011

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 22.16, 22.32, Annex F)

IEC 60335-1:2010 (ed.5)+A1:2013+A2:2016; EN 60335-1:2012 +A11:2014

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi da cucina

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-14:2006 (ed.5) +A1:2008 +A2:2012; EN 60335-2-14:2006 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per massaggio

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-32:2002 (ed.4) +A1:2008 +A2:2013; EN 60335-2-32:2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per l'igiene orale

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-52:2002 (ed.3) +A1:2008; EN 60335-2-52:2003 +A1:2008 +A11:2010 +A11/EC:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi di grigliatura per uso esterno

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-78:2002 (ed.2) +A1:2008; EN 60335-2-78:2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per il riscaldamento di liquidi

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-15:2002 (ed.5) +A1:2005 +A2:2008; EN 60335-2-15:2002 +A1:2005 +A2:2008 +A11:2012

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-15:2012 (ed.6)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi elettrici di riscaldamento per locali

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-30:2002 (ed.4) +A1:2004 +A2:2007; EN 60335-2-30:2003 + A1:2004 +A2:2007

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-30:2009 (ed.5); EN 60335-2-30:2009 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi elettrici annessi ad acquari e bacini da giardino

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-55:2002 (ed.3) +A1:2008; EN 60335-2-55:2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per vaporizzare sostanze insettifughe o deodoranti

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-101:2002 (ed.1) +A1:2008 +A2:2014;
EN 60335-2-101:2002 +A1:2008 +A2:2014

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi di refrigerazione, apparecchi per gelati e produttori di ghiaccio

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.101)

IEC 60335-2-24:2002 (ed.6) +A1:2005 +A2:2007; EN 60335-2-24:2003 +A1:2005 +A2:2007 +A11:2004 +A12:2009

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.101)

IEC 60335-2-24:2010 (ed.7) +A1:2012; EN 60335-2-24:2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi di pulizia di superfici con l'uso di agenti pulenti liquidi o vapore per uso domestico

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.101, 21.102, 21.103,21.104, 21.105)

IEC 60335-2-54:2002 (ed.3) +A1:2004 +A2:2007; EN 60335-2-54:2003 +A1:2004 +A2:2007 +A11:2006

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (eccetto 21.101, 21.102, 21.103,21.104, 21.105)

IEC 60335-2-54:2008 (ed.4); EN 60335-2-54:2008 +A11:2012

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi aventi bruciatori a gas, gasolio e combustibile solido provvisti di connessioni elettriche

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-102:2004 (ed.1) +A1:2009 +A2:2012; EN 60335-2-102:2006 +A1:2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per la pulizia a secco o umida, incluse le spazzole a motore, per uso industriale e commerciale

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.102, 21.103, 21.104, 21.105, 21.106)

IEC 60335-2-69:2002 (ed.3) +A1:2005 +A2:2008; EN 60335-2-69:2009

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (eccetto 21.102, 21.103, 21.104, 21.105, 21.106)

IEC 60335-2-69:2012 (ed.4); EN 60335-2-69:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per il trattamento dei pavimenti e per la pulitura dei pavimenti bagnati, per uso industriale e collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-67:2002 (ed.3) +A1:2005; EN 60335-2-67:2009

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-67:2012 (ed.4); EN 60335-2-67:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per apparecchi per la refrigerazione commerciale comprendenti un'unità di condensazione del fluido frigorifero o un compressore, incorporato o remoto

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-89:2002 (ed.1) +A1:2005 +A2:2007; EN 60335-2-89:2002 +A1:2005 +A2:2007 +A11:2004

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-89:2010 (ed.2) +A1:2012; EN 60335-2-89:2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per armadi caldi elettrici per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-49:2002 (ed.4) +A1:2008; EN 60335-2-49:2003 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per aspirapolvere ed apparecchi per pulizia ad aspirazione d'acqua

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.101, 21.102, 21.103,21.104, 21.105)

IEC 60335-2-2:2002 (ed.5) +A1: 2004 +A2:2006; EN 60335-2-2:2003 +A1:2004 +A2:2006 +A11:2010 +A11/EC:2012

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 21.101, 21.102, 21.103,21.104, 21.105)

IEC 60335-2-2:2009 (ed.6) +A1:2012; EN 60335-2-2:2010 +A11:2012 +A1:2013

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per attuatori di cancelli, porte e finestre motorizzati

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 32.101)

IEC 60335-2-103:2002 (ed.1); EN 60335-2-103:2003 +A11:2009

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (eccetto 32.101)

IEC 60335-2-103:2006 (ed.2) +A1:2011

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per cappe da cucina

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-31:2002 (ed.4) +A1:2006 +A2:2009; EN 60335-2-31:2003 +A1:2006 +A2:2009

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-31:2012 (ed.5)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per cappe da cucina per uso commerciale

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-99:2003 (ed.1); EN 60335-2-99:2003

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per cucine, fornelli, forni ed apparecchi similari per uso domestico

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-6:2002 (ed.5) +A1:2005 +A2:2008; EN 60335-2-6:2003 +A1:2005 +A2:2008 +A11:2010 +A12:2012 +A11/EC:2012 +A13:2013

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-6:2014 (ED.6)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per cucine, forni, fornelli e piani di cottura elettrici per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-36:2002 (ed.5) +A1:2004 +A2:2008; EN 60335-2-36:2002 +A1:2004 +A2:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per distributori commerciali e apparecchi automatici per la vendita

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne Annex A)

IEC 60335-2-75:2002 (ed.2) +A1:2005 +A2:2009; EN 60335-2-75:2004 +A1:2005 +A2:2008 +A11:2006 +A12:2010

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (eccetto Annex AA)

IEC 60335-2-75:2012 (ed.3)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per ferri da stiro

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-3:2002 (ed.5) +A1:2005 +A2:2008; EN 60335-2-3:2002 +A1:2005 +A2:2008 +A11:2010 +A11/EC:2012

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-3:2012 (ed.6)

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per forni elettrici a ventilazione forzata, forni per cottura a vapore e forni combinati convezione-vapore per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-42:2002 (ed.5) +A1:2009; EN 60335-2-42:2003 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per friggitrici elettriche per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-37:2002 (ed.5) +A1:2008 +A2:2011; EN 60335-2-37:2002 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per gli apparecchi per la purificazione dell'aria

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-65:2002 (ed.2) +A1:2008; EN 60335-2-65:2003 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per gli apparecchi per la cura della pelle e dei capelli

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-23:2003 (ed.5) +A1:2008 +A2:2012; EN 60335-2-23:2003 +A1:2008 +A11:2010 +A11/EC:2012

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per gli apparecchi per l'asciugatura dei tessuti e per gli asciugasalviette

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-43:2002 (ed.3) +A1:2005 +A2:2008; EN 60335-2-43:2003 +A1:2006 +A2:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per grill e tostapane elettrici per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-48:2002 (ed.4) +A1:2008; EN 60335-2-48:2003 +A1:2008 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per griglie, tostapane e apparecchi per cottura mobili similari

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-9(ed.5)+am1+am2; EN 60335-2-9:2003 + A1:2004 + A2:2006 + A12:2007 + A13:2010 + A13/EC:2011 + A13/EC:2012

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-9:2008 (ed.6) +A1:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per i motori di movimentazione di porte di garage a movimento verticale per uso residenziale

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-95:2002 (ed.2); EN 60335-2-95:2004

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-95:2011 (ed.3)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per idropultrici ed apparecchi per la pulizia a vapore

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-79:2002 (ed.2) +A1:2005 +A2:2007; EN 60335-2-79:2009

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-79:2012 (ed.3); EN 60335-2-79:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per lavastoviglie elettriche per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne Annex BB)

IEC 60335-2-58:2002 (ed.3) +A1:2008; EN 60335-2-58:2005 +A1:2008 +A11:2010

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per le cabine con doccia multifunzione

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-105:2004 (ed.1) +A1:2008 +A2:2013; EN 60335-2-105:2005 +A1:2008 +A11:2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per le pompe di calore elettriche, per i condizionatori d'aria e per i deumidificatori

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 22.108)

IEC 60335-2-40:2002 (ed.4) +A1:2005 +A2:2005; EN 60335-2-40:2003 +A1:2006 +A2:2009 +A11:2004 +A12:2005 +A13:2012

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-40:2002 (ed.5)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per macchine per cucire elettriche

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-28:2002 (ed.4) +A1:2008; EN 60335-2-28: 2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per macchine da cucina elettriche per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-64:1991 (ed.2) +A1:1997; EN 60335-2-64:2000 +A1:2002

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-64:2002 (ed.3) +A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per macchine automatiche per il trattamento dei pavimenti per uso industriale e collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-72:2002 (ed.2); EN 60335-2-72:2009

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-72:2012 (ed.3); EN 60335-2-72:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per macchine per la pulizia a polverizzazione e ad aspirazione d'acqua per uso industriale e collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-68:2002 (ed.3) +A1:2005 +A2:2007; EN 60335-2-68:2009

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-68:2012 (ed.4); EN 60335-2-68:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per motori di movimentazione per tapparelle, tende per esterno, tende e apparecchiature avvolgibili similari

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-97:2002 (ed.2) +A1:2005 +A2:2009; EN 60335-2-97:2006 +A2:2010 +A11:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per padelle per friggere, friggitrici e apparecchi similari

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-13:2002 (ed.5) +A1:2004 +A2:2008; EN 60335-2-13:2003 +A1:2004 +A2:2008

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-13:2009 (ed.6); EN 60335-2-13:2010 +A11:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per piastre a grigliare elettriche per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-38:2002 (ed.5) +A1:2008; EN 60335-2-38:2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per pompe

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-41:2002 (ed.3) +A1:2004 +A2:2010; EN 60335-2-41:2003 +A1:2004 +A2:2010

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-41:2012 (ed.4)

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per rasoi, tosatrici e apparecchi elettrici analoghi

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-8:2002 (ed.5) +A1:2005 +A2:2008; EN 60335-2-8:2003 +A1:2005 +A2:2008

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-8:2012 (ed.6)

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per riscaldatori fissi ad immersione

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2:2002 (ed.2) +A1:2006 +A2:2009; EN 60335-2-73:2003 +A1:2006 +A2:2009

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per riscaldatori mobili ad immersione

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-74:2002 (ed.2) +A1:2006 +A2:2009; EN 60335-2-74:2003 +A1:2006 +A2:2009

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per risciacquatrici elettriche per uso collettivo

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-62:2002 (ed.3) +A1:2008; EN 60335-2-62:2003 + A1:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per scaldavivande elettriche ed apparecchi similari

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-12:2002 (ed.5) +A1:2008; EN 60335-2-12:2003 + A1:2008

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Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per umidificatori da utilizzarsi in sistemi di riscaldamento, ventilazione o di condizionamento dell'aria

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards (Tutto tranne 22.7, 22.106)

IEC 60335-2-88:2002 (ed.2); EN 60335-2-88:2002

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per utensili elettrici mobili riscaldanti e apparecchi similari

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-45:2002 (ed.3) +A1:2008 +A2:2012; EN 60335-2-45:2002 +A1:2008 +A2:2012

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per vasche per idromassaggio e per piscine di tipo "spa"

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-60:2002 (ed.3) +A1:2005 +A2:2008; EN 60335-2-60:2003 +A1:2005 +A2:2008 +A11:2010 +A12:2010

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Norme particolari per ventilatori

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminal s for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-80:2002 (ed.2) +A1:2004 +A2:2008; EN 60335-2-80:2003 +A1:2004 +A2:2009

Sicurezza degli apparecchi elettrici d'uso domestico e similare - Parte 2: Prescrizioni particolari per umidificatori

Denominazione della prova / Campi di prova

Metodo di prova

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7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-98:2002 (ed.2) +A1:2005 +A2:2008; EN 60335-2-98:2003 +A1:2005 +A2:2008

Sicurezza degli apparecchi elettrici d'uso domestico e similare Parte 2: Norme particolari per apparecchi sterminainsetti

Denominazione della prova / Campi di prova

Metodo di prova

7 Marking and instructions, 8 Protection against access to live parts, 9 Starting of motor-operated appliances, 10 Power input and current, 11 - Heating, 13 - Leakage current and electric strength at operating temperature, 14 - Transient overvoltage, 15 - Moisture resistance, 16 Leakage current and electric strength, 17 - Overload protection of transformers and associated circuits, 18 - Endurance, 19 - Abnormal operation, 20 - Stability and mechanical hazards, 21 - Mechanical strength, 22 - Construction, 23 - Internal wiring, 24 - Components, 25 - Supply connection and external flexible cords, 26 - Terminals for external conductors, 27 - Provision for earthing, 28 - Screws and connections, 29 - Clearances, creepage distances and solid insulation, 30 - Resistance to heat and fire, 31 - Resistance to rusting, 32 - Radiation, toxicity and similar hazards

IEC 60335-2-59:2002 (ed.3) +A1:2006+ A2:2009; EN 60335-2-59:2003 +A1:2006 +A2:2009

Sicurezza degli apparecchi elettrici d'uso domestico e similare Parte2: Norme particolari per forni a microonde, compresi forni a microonde combinati

Denominazione della prova / Campi di prova

Metodo di prova

Classificazione / Classification (par. 6);
 Marcatura e istruzioni / Marking and instructions (par. 7);
 Protezione contro l'accesso a parti in tensione / Protection against access to live parts (par. 8);
 Potenza e corrente / Power input and current (par. 10);
 Riscaldamento / Heating (par. 11);
 Corrente di dispersione e rigidità dielettrica alla temperatura di funzionamento / Leakage current and electric strength at operating temperature (par. 13);
 Sovratensioni transitorie / Transient overvoltage (par. 14);
 Resistenza all'umidità / Moisture resistance (par. 15);
 Corrente di dispersione e rigidità dielettrica / Leakage current and electric strength (par. 16);
 Protezione contro il sovraccarico dei trasformatori e dei circuiti associati / Overload protection of transformers and associated circuits (par. 17);
 Durata / Endurance (par. 18);
 Funzionamento anormale / Abnormal operation (par. 19);
 Stabilità e pericoli meccanici / Stability and mechanical hazards (par. 20);
 Resistenza meccanica / Mechanical strength (par. 21);
 Costruzione / Construction (par. 22);
 Cavi interni / Internal wiring (par. 23);
 Componenti / Components (par. 24);
 Collegamento alla rete e cavi flessibili esterni / Supply connection and external flexible cords (par. 25);
 Morsetti per cavi esterni / Terminals for external conductors (par. 26);
 Disposizioni per la messa a terra / Provision for earthing (par. 27);
 Viti e connessioni / Screws and connections (par. 28);
 Distanze di isolamento superficiali, in aria e distanze attraverso l'isolamento solido / Clearances, creepage distances and solid insulation (par. 29);
 Resistenza al calore e al fuoco / Resistance to heat and fire (par. 30);
 Protezione contro la ruggine / Resistance to rusting (par. 31);
 Radiazione, tossicità e pericoli analoghi / Radiation, toxicity and similar hazards (par. 32)

IEC 60335-2-25:2010+AMD1: 2014; EN 60335-2-25:2012/A1:2015

Sicurezza dei convertitori di potenza utilizzati negli impianti Fotovoltaici.

Parte 2: Prescrizioni particolari per gli inverter

Denominazione della prova / Campi di prova

Metodo di prova

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4 General testing requirements, 5 -Marking and documentation, 6 - Environmental requirements and conditions, 7 -Protection against electric shock and energy hazards, 8 - Protection against mechanical hazards, 9 Protection against fire hazards, 10 - Protection against sonic pressure hazards, 11 - Protection against liquid hazards, 12 - Chemical hazards, 13 Physical requirements, 14 - Components - (eccetto 8.4, 8.5)

EN 62109-2: 2011
(ed.1.0)

IEC 62109-2: 2011

Sistemas fotovoltaicos (FV) – Características da interface de conexão com a rede elétrica de distribuição / Photovoltaic (PV) systems – Characteristics of the utility interface

Denominazione della prova / Campi di prova

Metodo di prova

- Compatibility with the electrical grid (par.4);
- Personal safety and PV system protection (par. 5);
- External control (par. 6);
- Requirements for supportability to voltages caused by electrical faults (fault ride through - FRT) (par. 7)

ABNT NBR 16149:2013

Sistemas fotovoltaicos (FV) – Características da interface de conexão com a rede elétrica de distribuição – Procedimento de ensaio de conformidade / Photovoltaic (PV) systems – Characteristics of the utility interface – Conformity test procedure

Denominazione della prova / Campi di prova

Metodo di prova

- Flicker (par. 6.1);
- c.c. component injection (par. 6.2);
- Harmonics and wave-form distortion (par. 6.3);
- Power factor (par. 6.4);
- Reactive power injection / demand (par. 6.5);
- Voltage variation (par. 6.6);
- Frequency variation (par. 6.7);
- Active power control in overfrequency (par. 6.8);
- Reconnection (par. 6.9);
- Automatic out-of-phase reconnection (par. 6.10);
- Active power limitation (par. 6.11);
- Reactive power command (par. 6.12);
- Disconnection and reconnection of the photovoltaic system in the electrical grid (par. 6.13);
- Supportability requirements to undervoltages due to faults in the electrical grid (fault ride through - FRT)

ABNT NBR 16150:2013

Solid insulating materials

Denominazione della prova / Campi di prova

Metodo di prova

Method for the determination of the proof and the comparative tracking indices of solid insulating materials

IEC 60112:2009

Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures

Denominazione della prova / Campi di prova

Metodo di prova

- Test for single or multi-phase inverter (par.6) (<120kVA)

IEC 62116:2014;
EN 62116:2014

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ELENCO PROVE ACCREDITATE - CATEGORIA: III

Automatic disconnection device between a generator an the public low-voltage grid

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Functional safety (par.6.1); - Switch-on condition (par.6.2) - Voltage monitoring (par.6.3); - Frequency monitoring (par.6.4); - Direct current monitoring (par.6.5); - Detection of island operation (par.6.6) 	DIN VDE V 0126-1-1 (VDE V 0126-1-1):2013-08

Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Unintentional islanding test (par.5.7.1) 	IEEE 1547.1:2005

Ensayos de deteccion de funcionamiento en isla de multiples inversores fotovoltaicos conectados a red en paralelo / Performance tests for islanding detection of multiple grid-connected photovoltaic inverters in parallel

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Procedure of evaluation (par.4) 	UNE 206006 IN:2011

Erection of electrical installations with rated voltages up to AC 1000 V and DC 1500 V - Part 4-712: Photovoltaic power-systems - Erection and safety requirements systems

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Functional safety (Annex A.3.1); - Voltage monitoring (Annex A.3.2); - Frequency monitoring (Annex A.3.3); - Direct current monitoring (Annex A.3.4); - Detection of island operation (Annex A.3.5); - Residual current monitoring (Annex A.3.6) 	OVE/ONORM E 8001-4-712:2009

gird connected converters

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
Appendix B (Power factor test), Appendix C (Harmonic current limit test), Appendix D (Transient voltage limit test), Appendix E (DC injection test), Appendix F (Active anti-islanding test), Appendix G (Voltage and frequency limits (Passive anti-islanding protection) test), Appendix H (Limits for sustained operation) , Appendix I (Demand and power quality response mode testing including disconnection on external signal, Appendix J (Multiple inverter testing)	AS/NZS 4777.2:2015
<ul style="list-style-type: none"> - Tolerance of Frequency and Voltage Deviations (par.5); - Frequency Response (par.6); - Reactive Power Capabilities (par.7); - Reactive Power and Voltage Control Functions (par.8); - Power Quality (par.9); - Protection and Fault levels (par.10); - Active Power Constraint Functions (par.11) 	GRID CONNECTION CODE FOR RENEWABLE POWER PLANTS (RPPs) CONNECTED TO THE ELECTRICITY TRANSMISSION SYSTEM (TS) OR THE DISTRIBUTION SYSTEM (DS) IN SOUTH AFRICA (Version 2.8 - 2014)

Grid integration of generator plants - Low-Voltage- Test requirements for generator units to be connected to and operated in parallel with low-Voltage distribution networks

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>
<ul style="list-style-type: none"> - Rapid Voltage changes (par.5.1.2) - Flicker (par.5.1.3) -Harmonics and inter-harmonics (par 5.1.4) - Proof of the symmetrical behavior of rotary current converter units (par.5.2) -Proof of the behavior of the generation unit on the grid (par. 5.3) - Proof of NS protection (par. 5.4) - Connection conditions and synchronization (par. 5.5) 	DIN V VDE V 0124-100:2012

Grid interconnection of embedded generation - Part 2: Small-scale embedded generation - Section 1: Utility interface

<i>Denominazione della prova / Campi di prova</i>	<i>Metodo di prova</i>

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- Flicker (par.4.1.3);
- Harmonics and waveform distortion (par.4.1.6);
- Power factor (par.4.1.7);
- Synchronization (par.4.1.8);
- Overvoltage and undervoltage (par.4.2.2.3.2);
- Overfrequency and underfrequency (par.4.2.2.3.3);
- Prevention of islanding (par.4.2.2.4);
- DC current injection (par.4.2.2.5)

NRS 097-2-1:2010

Metodi di misura dei campi elettromagnetici degli apparecchi elettrodomestici e similari in relazione all'esposizione umana

Denominazione della prova / Campi di prova

Metodo di prova

5.5.2 - Time domain evaluation of magnetic fields, 5.5.3 - Line spectrum evaluation, 5.5.4 - Simplified test methods

IEC 62233:2005 (ed.1); EN 62233:2008

Photovoltaic (PV) systems - Characteristics of the utility interface

Denominazione della prova / Campi di prova

Metodo di prova

- Voltage, current and frequency (par.4.1);
- Normal voltage operating range (par.4.2);
- Flicker (par.4.3);
- DC injection (par.4.4);
- Normal frequency operating range (par.4.5);
- Harmonics and waveform distortion (par.4.6);
- Power factor (par.4.7);
- Loss of utility voltage (par.5.1);
- Over/under voltage and frequency (par.5.2);
- Islanding protection (par.5.3);
- Response to utility recovery (par.5.4) (Tutto tranne 5.5, 5.6, 5.7)

IEC 61727:2004;
EN 61727:1995

Photovoltaic systems - Power conditioners - Procedure for measuring efficiency

Denominazione della prova / Campi di prova

Metodo di prova

- Efficiency measurement (par.4,5,6);
- Loss measurements (par.7)

IEC 61683:1999;
EN 61683:2000

Power generation systems connected to the low-voltage distribution network - Technical minimum requirements for the connection to and parallel operation with low-voltage distribution networks.

Denominazione della prova / Campi di prova

Metodo di prova

- Verification of the electrical properties (par.9);
- Islanding detection (Annex D)

VDE-AR-N 4105:2011

Procedimento de ensaio de anti-ilhamento para inversores de sistemas fotovoltaicos conectados à rede elétrica / Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters

Denominazione della prova / Campi di prova

Metodo di prova

- Test for single or multi-phase inverter (par.6)

ABNT NBR IEC 62116:2012

Recommendations for the Connection of Type Tested Small-scale Embedded Generators (Up to 16A per Phase) in Parallel with Low-Voltage Distribution Systems

Denominazione della prova / Campi di prova

Metodo di prova

- Disconnection times (par.A1.3.1);
- Over / Under Voltage (par.A1.3.2);
- Over / Under Frequency (par.A1.3.3);
- Loss of Mains (LoM) Protection (par.A1.3.4);
- Re-connection (par.A1.3.5);
- Frequency Drift and Step Change Stability test (par.A1.3.6);
- Harmonics (par.A1.4.1);
- Power Factor (par.A1.4.2);
- Voltage Flicker (par.A1.4.3);
- DC Injection (par.A1.4.4);
- Short circuit Current Contribution (par.A1.4.6);
- Self Monitoring - Solid State Disconnection (par.A1.4.7) (Type Verification Functional Testing of the Interface Protection (Appendix A1.3))

ENA G83/2:2012

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Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica

Denominazione della prova / Campi di prova

Metodo di prova

- Misura di correnti armoniche (par.N.3.1);
- Misura di fluttuazioni di tensione dovute a manovre di sezionamento/separazione (par.N.3.2);
- Misura di fluttuazioni di tensione (flicker) in condizioni di funzionamento continuo (par.N.3.3);
- Verifica del campo di funzionamento in tensione e frequenza (par.N.4);
- Verifica delle condizioni di sincronizzazione e presa di carico (par.N.5);
- Verifica dei requisiti costruttivi circa lo scambio di potenza reattiva (par.N.6);
- Verifica dei requisiti costruttivi circa la regolazione di potenza attiva (par.N.7);
- Verifica della insensibilità agli abbassamenti di tensione (VFRT capability) (par.N.8);
- Verifica della insensibilità alle richiuse automatiche in discordanza di fase (par.N.9)
- Misura di correnti armoniche (par.Nbis.3.1);
- Misura di fluttuazioni di tensione dovute a manovre di sezionamento/separazione (par.Nbis.3.2);
- Misura di fluttuazioni di tensione (flicker) in condizioni di funzionamento continuo (par.Nbis.3.3);
- Verifica del campo di funzionamento in tensione e frequenza (par.Nbis.4);
- Verifica delle condizioni di sincronizzazione e presa di carico (par.Nbis.5);
- Verifica dei requisiti costruttivi circa lo scambio di potenza reattiva (par.Nbis.6);
- Verifica dei requisiti costruttivi circa la regolazione di potenza attiva (par.Nbis.7);
- Verifica della insensibilità agli abbassamenti di tensione (VFRT capability) (par.Nbis.8);
- Verifica della insensibilità alle richiuse automatiche in discordanza di fase (par.Nbis.9)

CEI 0-16:2014-09 + V1:2014-12 + V2:2016-07

Requisitos de conexiòn a la red elèctrica – Parte 1: Inversores para conexiòn a la red de distribuciòn / Requirements for connecting to the power system. Part 1: Grid-connected inverters

Denominazione della prova / Campi di prova

Metodo di prova

- Injection of direct current to main supply (par. 5.1);
- Behavior under isolation failure (par. 5.2);
- Detection of fault currents in the PV generator (par. 5.3);
- Disconnection due voltage and frequency (par 5.4);
- Automatic reconnection (par. 5.5);
- Detection of island operation (par. 5.6);
- Generation surges (par. 5.7);
- Network quality (par. 5.8);
- Reconnection out of sync (par. 5.9)

UNE 206007-1 IN:2013

Sicurezza degli apparati di conversione di potenza utilizzati in impianti fotovoltaici di Potenza. Parte 1: Prescrizioni generali

Denominazione della prova / Campi di prova

Metodo di prova

4 General testing requirements, 5 -Marking and documentation, 6 - Environmental requirements and conditions, 7 -Protection against electric shock and energy hazards, 8 - Protection against mechanical hazards, 9 Protection against fire hazards, 10 - Protection against sonic pressure hazards, 11 - Protection against liquid hazards, 12 - Chemical hazards, 13 Physical requirements, 14 - Components (eccetto 8.4, 8.5)

EN 62109-1: 2010 (ed.1.0) IEC 62109-1: 2010

Sicurezza dei convertitori di potenza utilizzati negli impianti Fotovoltaici. Parte 2: Prescrizioni particolari per gli inverter

Denominazione della prova / Campi di prova

Metodo di prova

4 General testing requirements, 5 -Marking and documentation, 6 - Environmental requirements and conditions, 7 -Protection against electric shock and energy hazards, 8 - Protection against mechanical hazards, 9 Protection against fire hazards, 10 - Protection against sonic pressure hazards, 11 - Protection against liquid hazards, 12 - Chemical hazards, 13 Physical requirements, 14 - Components - Tutto tranne 8.4, 8.5

EN 62109-2: 2011 IEC 62109-2: 2011

Sistemas fotovoltaicos (FV) – Características da interface de conexão com a rede elétrica de distribuição / Photovoltaic (PV) systems – Characteristics of the utility interface

Denominazione della prova / Campi di prova

Metodo di prova

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- Compatibility with the electrical grid (par.4);
- Personal safety and PV system protection (par. 5);
- External control (par. 6);
- Requirements for supportability to voltages caused by electrical faults (fault ride through - FRT) (par. 7)

ABNT NBR 16149:2013

Sistemas fotovoltaicos (FV) – Características da interface de conexão com a rede elétrica de distribuição – Procedimento de ensaio de conformidade / Fotovoltaic (PV) systems – Characteristics of the utility interface – Conformity test procedure

Denominazione della prova / Campi di prova

Metodo di prova

- Flicker (par. 6.1);
- c.c. component injection (par. 6.2);
- Harmonics and wave-form distortion (par. 6.3);
- Power factor (par. 6.4);
- Reactive power injection / demand (par. 6.5);
- Voltage variation (par. 6.6);
- Frequency variation (par. 6.7);
- Active power control in overfrequency (par. 6.8);
- Reconnection (par. 6.9);
- Automatic out-of-phase reconnection (par. 6.10);
- Active power limitation (par. 6.11);
- Reactive power command (par. 6.12);
- Disconnection and reconnection of the photovoltaic system in the electrical grid (par. 6.13);
- Supportability requirements to undervoltages due to faults in the electrical grid (fault ride through - FRT)

ABNT NBR 16150:2013

Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures

Denominazione della prova / Campi di prova

Metodo di prova

- Test for single or multi-phase inverter (par.6)

IEC 62116:2014;
EN 62116:2014

Legenda

CEI = Comitato Elettrotecnico Italiano
EN = European Committee for Standardization
ISO = International Organization for Standardization
IEC = International Electrotechnical Commission
ETSI = European Telecommunications Standards Institute
CISPR = Comité international spécial des perturbations radioélectriques
ABNT NBR = Associação Brasileira De Normas Técnicas
ANSI = American National Standards Institute
AS = Australian Standards
BDEW = Bundesverband der Energie- und Wasserwirtschaft (German Association of Energy and Water Industries)
DIN = Deutsches Institut für Normung
ENA = Energy Network Association
FCC = Federal Communications Commission
FGW = Fördergesellschaft Windenergie (Society for the Promotion of wind energy and other renewable energy)
IEEE = Institute of Electrical and Electronics Engineers
NRS = Specifications for the Electricity Supply Industry in collaboration with the South African Bureau of Standards (SABS)
ÖVE = Österreichischer Verband für Elektrotechnik (Austrian Standards Institute)
UNE = AENOR - Asociación Española de Normalización y Certificación
VDE = Verband der Elektrotechnik Elektronik Informationstechnik

ACCREDIA
Il Direttore del Dipartimento
(Dott.ssa Silvia Tramontin)

La decorrenza del presente elenco delle prove accreditate, coincide con la data di revisione del documento, posta in alto a destra. Non rileva il fatto che la firma digitale sia stata apposta successivamente