	OPERATIONAL DOCUMENT	**ENEC 324** **Annex A**

Annex A to OD ENEC 324

ENEC Product Surveillance Testing Programmes

Draft

to make reference to OD ENEC 324 in the body

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ANNEX A to OD ENEC 324

ENEC Product Surveillance Testing Programmes

This Annex lists the checks, measurements and tests to be carried out in addition to those defined in chapter 2.1 of OD ENEC 324. Clauses in normal characters are mandatory; clauses in italics apply in case of doubt and based on previous test results (type test, routine tests), according to the judgement of the responsible testing engineer.

Numbers refer to Annex B of PD ENEC 301. The number of pieces per sample is to be in accordance with the relevant product Standard.

Other tests can be performed if during certification process, these tests showed results close to the limit.

Notes: Markings and instructions have to be checked before performing any of the tests below.

1. Luminaires (EN 60598 and EN IEC 60598 series) (LITE)

Clause 7	Earthing check
Clause 9.2	Tests for the ingress of dust, solid objects and moisture

From practical experience, the following tests may be appropriate:

Clause 4	*Visual verification, in case of doubt testing*
Clause 10.2	*Humidity test and dielectric strength tests*
Clause 12.4, 12.5,12.7	*Temperature tests under normal and abnormal conditions*
Clause 12 (12.6)	*Luminaires suitable for direct mounting on normally flammable surfaces, special attention to all the aspects which can influence this measurement*
Clause 13.4	*Tracking test*

Note: if the appliance is IK rated under ENEC certification, the IP test has to be performed after IK verification tests

1.1 Emergency luminaires (EN 60598-2-22)

Clause 22.17	Functional safety (lumen output only

Note: for luminaires with integral ballast tested with the luminaire see also 22.7

2. LED modules for general lighting – Safety specifications (EN 62031 and EN IEC 62031) (LITE)

Note: For IEC/TR 62778, assessment is only required when the lamp/ lightsource standard indicates that there is a possible photobiological risk that needs to be considered.

Clause 12	Electric strength
Clause 13	Fault conditions

From practical experience, the following tests may be appropriate:

Clause 9	*Provisions for protective earthing*
Clause 10	*Protection against accidental contact with live parts*
Clause 11	*Moisture resistance and insulation*
Clause 16	*Creepage distances and clearances*
Clause 18	*Resistance to heat*

7. Starters for tubular fluorescent lamps (EN 60155) (21 pieces) (LITE)

Clause 7.6	Dimensions
Clause 7.10	Resistance to heat and fire

From practical experience, the following tests may be appropriate:

Clause 7.3	*Protection against accidental electric shocks*
Clause 7.7	*Torsion test*
Clause 7.8	*Mechanical strength*
Clause 7.11	*Quality of marking*

8. Capacitors for use in Tubular Fluorescent and other Discharge Lamp Circuits EN 61048 and EN 61049) (CAP)

Note: Clauses and Sub-clauses indicated below are referring to EN 61048 except where otherwise stated.

Test Group I (5 pieces)

Capacitors of type A and B

Clause 16	Resistance to heat, fire and tracking

From practical experience, the following tests may be appropriate:

Clause 15.2	*Current (discharge) test*
Clause 13	*High voltage tests*
Clause 14	*Resistance to adverse operating conditions*
Clause 15	*resistance to adverse operating conditions*

Test Group II

Capacitors of type A (11 pieces)

Clause 18	Destruction test
Sub-clause 18.1	Endurance test (Clause 8 of EN 61049)
Sub-clause 18.1.2	(Destruction test)

Capacitors of type B (21 pieces)

Clause 18	Destruction test
Sub-clause 18.2	Test B

(Clause 8 of EN 61049 Endurance test)

Note: Endurance test and Destruction test may be carried out at Manufacturer's premises.

Frequency of retesting

Test Group I	every year
Test Group II	every 3 years *(Rationale: 3 years has been chosen because tests of this Group are very expensive in term of time and cost)*

Note: in the case of Test Group I, the tests of Clause 14 of type A may be omitted.

9. Edison lampholders (EN IEC 60238) (LITE)

Clause 8	Dimensions
Clause 9	Protection against electric shock

From practical experience, the following tests may be appropriate:

Clause 19.4	*Test of resistance to heat*
Clause 20	*Resistance to heat, fire and tracking (Test of: ball-pressure, glow- wire, flame, tracking)*

10. Fluorescent lampholders (EN 60400) (LITE)

Clause 10	Construction
Clause 17	Resistance to heat, fire and tracking

11. Miscellaneous lampholders (EN 60838-1) (LITE)

Clause 7	Protection against electric shock
Clause 10	Construction

11.1 Lampholders S14 (EN 60838-2-1) (LITE)

Clause 8	Protection against electric shock
Clause 11	Construction

11.2 Connectors for LED-modules (EN 60838-2-2) (LITE)

Clause 8	Protection against electric shock
Clause 11	Construction

13. Bayonet lampholders (EN 61184) (LITE)

Clause 12	Construction
Clause 18	General resistance to heat

From practical experience, the following tests may be appropriate:

Clause 19	*Resistance to heat, fire and tracking (Test of: ball-pressure, glow- wire, flame, tracking)*

15. Electrical supply track systems for luminaires (EN 60570) (LITE)

Clause 13	Protection against electric shock
Clause 16	Provision for earthing

From practical experience, the following tests may be appropriate:

Clause 8.9	*Mechanical/electrical endurance*
Clause 8.10	*Short-circuit protection (only for self-circuit)*
Clause 12.3	*Endurance test*
Clause 17.1	*Test for track*

Clause 17.2 *Test for track components*

17. Self-ballasted lamps for general lighting services (EN 60968 safety) (LITE)

Clause 5 Interchangeability
Clause 11 Fire resistance

From practical experience, the following tests may be appropriate:
Clause 6 *Protection against electric shock*
Clause 8 *Mechanical strength*

18. Transformers for tubular discharge lamps having a no-load output voltage exceeding 1000 V (neon transformers) (EN 61050) (LITE)

Clause 8 Electrical characteristics
Clause 15 *Insulation resistance and electric strength*
Clause 18 Provisions for earthing

From practical experience, the following tests may be appropriate:
Clause 9 *Magnetic influence*
Clause 10 *Heating*
Clause 12 *Degrees of protection*
Clause 20 *Creepage distances and clearances*

19. Transformers (EN 61558 series) (SAFE)

Clause 9 Protection against access to live parts
Clause 18 b Leakage current

From practical experience, the following tests may be appropriate:
Clauses 10, 11 *Input, change of input voltage and output*
Clause 14 *Accessible surface temperatures under full load*
Clause 15 *Short circuit test*
Clause 18 b *Leakage current*
Clause 26 *Creepage distances, clearances and distances through insulation*

20. Switches for appliances (EN 61058-1, EN 61058-1-1, EN 61058-1-2, EN 61058-2-1) (INST)

Clause 8 Markings
Clause 15 Electric Strength and Insulation Resistance
Clause 16 Heating
Clause 17 Endurance

20. Switches for appliances (EN 61058-2-6) (INST)

Clause 8 Markings
Clause 15 Electric Strength and Insulation Resistance
Clause 17 Endurance

21. Automatic controls (EN 60730 series) (CONT)

Clause 8	Markings
Clause 13	Electric Strength and Insulation Resistance
Clause 14	*Heating*
Clause 17	*Endurance*

24. Connecting devices (EN 60998 series) (INST)

Clause 8	Markings
Clause 9	Protection against electric shock
Clause 10	Connection of conductors
Clause 11	Construction
Clause 13	Electric Strength and Insulation resistance
Clause 17	Creepage and clearance distances, and through sealing compounds
Clause 18	Resistance of insulating material to abnormal heat and fire
Clause 19	Resistance of insulating material to tracking

25. Connecting devices - Electrical copper conductors (EN 60999-1) (INST)

Clause 6	Main characteristics
Clause 7	Connection of conductors
Clause 8	Constructional requirements
Clause 9	Tests

26. Sectional Specification: Fixed inductors for electromagnetic interference suppression (Inductors for which safety tests are required) (EN 60938-2) (CAP)

Test Group I

Clause 1.5	Marking
Group 3A - Clause 4.16	Temperature rise or Clause 4.18.1 Endurance current
Group 3B - Clause 4.17	Impulse voltage
Clause 4.18	Endurance-voltage between line terminations

Test Group II

Clause 1.5	Marking
Group 2 - Clause 4.15	Damp heat, steady state
Group 4 - Clause 4.19	Passive flammability

Frequency of retesting

Test Group I and Test Group II shall be alternated year by year *(Rationale: rotation of the tests has been chosen because the tests considered are very expensive in terms of time and cost).*

27. Lamp control gear (EN 61347 series) (LITE)

On a 2-year basis the following tests (non-italic) shall be performed and test sequences shall be considered

27.1 Starting devices

EN 61347-1 and EN 61347-2-1 (safety) (LITE)

Clause 8	Protection against electric shock
Clause 12	Electric strength
Annex G	Pulse voltage

From practical experience, the following tests may be appropriate:

Clause 8	*Protection against electric shock*
Clause 10	*Provision for earthing*
Clause 11	*Insulation*
Clause 14	*Fault conditions*
Clause 19	*Creepage distances and clearances*
Clause 21	*Resistance to heat*

EN 60927 (performance) (LITE)

From practical experience, the following tests may be appropriate:

Clauses 6/10	*Starting test*

27.2 Electronic step-down convertors for filament lamps

EN 61347-1 and EN 61347-2-2 (safety) (LITE)

Clause 8	Protection against electric shock
Clause 12	Electric strength

From practical experience, the following tests may be appropriate:

Clause 10	*Provision for earthing*
Clause 11	*Moisture resistance and insulation*
Clause 14	*Fault conditions*
Clause 15	*Transformer heating*
Clause 18	*Creepage distances and clearances*
Clause 20	*Resistance to heat*

EN 61047 (performance) (LITE)

Clause 6	Output voltage and current
Clause 7	Total circuit power

From practical experience, the following tests may be appropriate:

Clause 8	*Circuit power factor*
Clause 9	*Supply current*
Clause 12	*Operational test for abnormal conditions*
Clause 13	*Endurance*

27.3 Electronic ballasts for fluorescent lamps

EN 61347-1 and EN 61347-2-3 (safety) (LITE)

Clause 8	Protection against electric shock
Clause 12	Electric strength

From practical experience, the following tests may be appropriate:

Clause 10	*Provision for earthing*
Clause 11	*Moisture resistance and insulation*
Clause 14	*Fault conditions*
Clause 15	*Protection of associated components*
Clause 16	*Abnormal condition*
Clause 18	*Creepage distances and clearances*
Clause 20	*Resistance to heat*
ANNEX J	*Schedule of more onerous requirements*

EN 60929 (performance) (LITE)

Clause 7	Starting conditions
Clause 8	Operating conditions

From practical experience, the following tests may be appropriate:

Clause 9	*Circuit power factor*
Clause 10	*Supply current*
Clause 11	*Maximum current*
Clause 16	*Operational test for abnormal conditions*
Clause 17	*Endurance*

27.7 Electronic ballasts for emergency lighting (EN 61347-2-7) (LITE)

Clause 8	Protection against electric shock
Clause 20	Functional safety EBLF

From practical experience, the following tests may be appropriate:

Clause 10	*Provision for earthing*
Clause 11	*Moisture resistance and insulation*
Clause 12	*Electric strength*
Clause 15	*Starting*
Clause 21	*Change over operation*
Clause 22	*Recharging device*
Clause 23	*Protection against excessive discharge*
Clause 25	*remote control rest mode inhibition mode*
Clause 26	*Temperature cycling test and endurance test*
Clause 27	*Polarity reversal*
Clause 29	*Fault conditions*
Clause 30	*Creepage distances and clearance*
Clause 34	*abnormal lamp condition*
Clause 35	*Protection of associated components*

27.8 Ballasts for fluorescent lamps

EN 61347-1 and EN 61347-2-8 (safety) (LITE)

Clause 10	Provision for earthing
Clause 14	Ballast heating

From practical experience, the following tests may be appropriate:

Clause 8	*Protection against electric shock*
Clause 12	*Electric strength*

Clause 13 *Thermal endurance for windings (1 every 3 years)*
Clause 18 *Creepage distances and clearances*
Clause 20 *Resistance to heat*

EN 60921 (performance) (LITE)

Clause 7 Power and current

From practical experience, the following tests may be appropriate:
Clause 8 *Circuit Power factor*

27.9 Ballasts for discharge lamps

EN 61347-1 and EN 61347-2-9 (safety) (LITE)

Clause 10 Provision for earthing
Clause 14 Ballast heating

From practical experience, the following tests may be appropriate:
Clause 8 *Protection against electric shock*
Clause 12 *Electric strength*
Clause 13 *Thermal endurance for windings (1 every 3 years)*
Clause 18 *Creepage distances and clearances*
Clause 20 *Resistance to heat*

EN 60923 (performance) (LITE)

Clause 6 Circuit power factor

From practical experience, the following tests may be appropriate:
Clause 7 *Supply current*
Clause 8 *Current waveform*

27.10 Electronic invertors and convertors for high-frequency operation of cold start tubular discharge lamps (neon tubes); EN 61347-1 and EN 61347-2-10 (LITE)

Clause 9 Provision for earthing
Clause 12 Electric strength

From practical experience, the following tests may be appropriate:
Clause 10 *Protection against accidental contact with live parts*
Clause 11 *Moisture resistance and insulation*
Clause 15 *Abnormal condition*
Clause 16 *Fault conditions*
Clause 18 *Creepage distances and clearances*
Clause 21 *Resistance to heat*

27.11 Electronic circuits used with luminaries (EN 61347-2-11) (LITE)

Clause 10 Protection against accidental contact with live parts
Clause 11 Moisture resistance and insulation

From practical experience, the following tests may be appropriate:

Clause 14 *Fault conditions*
Clause 16 *Creepage distances (to earth)*
Clause 18 *Resistance to heat*

27.12 DC or AC supplied electronic ballasts for discharge lamps (excluding fluorescent lamps (EN 61347-2-12) (LITE)

Clause 10 Protection against accidental contact with live parts
Clause 12 Electric strength

From practical experience, the following tests may be appropriate:
Clause 9 *Provision for earthing*
Clause 11 *Moisture resistance and insulation*
Clause 14 *Fault conditions*
Clause 17 *Abnormal condition*
Clause 19 *Creepage distances and clearances*
Clause 21 *Resistance to heat*

27.13 DC or AC supplied electronic control gear for LED modules

EN 61347-1 and EN 61347-2-13 (safety) (LITE)

Clause 8 Protection against accidental contact with live parts
Clause 12 Electric strength

From practical experience, the following tests may be appropriate:
Clause 10 *Provisions for protective earthing*
Clause 11 *Moisture resistance and insulation*
Clause 14 *Fault conditions*
Clause 15 *Transformer heating*
Clause 16 *Abnormal condition*
Clause 18 *Creepage distances and clearances*
Clause 20 *Resistance to heat*

EN 62384 (performance) (LITE)

From practical experience, the following tests may be appropriate:
Clause 7 *Output voltage and current*
Clause 13 *Endurance*

28. Appliance couplers (EN 60320 series) (INST)

28.1 Sewing machine couplers (EN 60320-1 and EN 60320-2-1) (INST)

Connectors

Clause 8 Markings
Clause 9 Dimension and compatibility
Clause 16 Withdrawal force
Clause 19 *Breaking capacity*
Clause 20 Endurance

Clause 21	Temperature rise

Appliance inlets

Clause 8	Markings
Clause 9	Dimensions
Clause 24	Resistance to heat and ageing

28.2 Interconnection couplers (EN 60320-2-2) (INST)

Plug connectors

Clause 8	Markings
Clause 9	Dimensions
Clause 15	Insulating resistance and electrical strength
Clause 22	Cords and their connections

Appliance outlets

Clause 8	Markings
Clause 9	Dimensions
Clause 16	Withdrawal force
Clause 19	*Breaking capacity*
Clause 20	Endurance
Clause 21	Temperature rise

28.3 Appliance couplers with a degree of protection higher than IPX0 (EN 60320-2-3) (INST)

Plug connectors

Clause 8	Markings
Clause 9	Dimensions
Clause 14	Moisture resistance
Clause 15	Insulating resistance and electrical strength
Clause 22	Cords and their connections

Appliance outlets

Clause 8	Markings
Clause 9	Dimensions
Clause 14	Moisture resistance
Clause 15	Insulating resistance and electrical strength
Clause 16	Withdrawal force
Clause 19	*Breaking capacity*
Clause 20	Endurance
Clause 21	Temperature rise

28.4 Couplers dependent on appliance weight for engagement (EN 60320-2-4) (INST)

Plug connectors

Clause 8	Markings
Clause 9	Dimensions
Clause 15	Insulating resistance and electrical strength
Clause 22	Cords and their connections

Appliance outlets

Clause 8	Markings
Clause 9	Dimensions
Clause 16	Withdrawal force
Clause 19	*Breaking capacity*
Clause 20	Endurance
Clause 21	Temperature rise

29. Flat non-rewireable 2 pole plugs (EN 50075) (INST)

Clause 6	Markings
Clause 7	Dimensions
Clause 8	Protection against electrical shock
Clause 12	Flexible cords and their connection
Clause 13	Mechanical strength
Clause 14	Resistance to heat and to ageing

30. Plugs, appliance inlets, socket-outlets, connectors and switched socket-outlets and connectors with or without interlock for industrial purposes (EN 60309-1, EN 60309-2 and EN 60309-4) (INST)

Clause 7	Marking
Clause 8	Dimensions
Clause 12	Interlocks, switches and their components
Clause 19	Insulation resistance and dielectric strength
Clause 23	Flexible cable and their connections
Clause 27	Resistance to heat, fire and tracking

31. Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (EN 60384-14) (CAP)

Test Group I

Clause 1.6	Marking
Group 2 - Clause 4.12	Damp heat, steady state
Group 6 - Clause 4.17	Passive flammability

Test Group II

Clause 1.6	Marking
Group 3 - Clause 4.13	Impulse voltage
- Clause 4.14	Endurance
Group 7 - Clause 4.18	Active flammability

Frequency of retesting

Test Group I and Test Group II shall be alternated year by year (Rationale: rotation of the tests has been chosen because the tests considered are very expensive in terms of time and cost).

Note: Tests may be carried out at Manufacturer's premises.

32. Passive filter units for electromagnetic interference suppression (EN 60939-2 and EN 60939-3) (CAP)

32.1 EN 60939-2 (CAP)

Test Group I

Clause 1.5	Marking
Group 3A - Clause 4.17	Temperature rise or Clause 4.19.1 Endurance current
Group 3B - Clause 4.18	Impulse voltage
Clause 4.19.2	Endurance-voltage line termination/case
Group 3C - Clause 4.18	Impulse voltage
Clause 4.19.2	Endurance-voltage between line terminations

Note: The tests of Groups 3B or 3C may be omitted if the capacitors in the filter are separately encapsulated and have been qualified under EN 132400.

Test Group II

Clause 1.5	Marking
Group 2 - Clause 4.16	Damp heat, steady state
Group 7 - Clause 4.21	Passive flammability

Frequency of retesting
Test Group I and Test Group II shall be alternated year by year (Rationale: rotation of the tests has been chosen because the tests considered are very expensive in term of time and cost).

Note: Tests may be carried out at Manufacturer's Premises.

32.2 EN 60939-3 (CAP)

Test Group I

Clause 1.5	Marking
Group 3A – Clause 4.20	Temperature rise or Clause 4.25.3 Endurance current and Current overload 4.21
Group 3B – Clause 4.24	Impulse voltage
Clause 4.25.4	Endurance-voltage line termination/case
Group 3C – Clause 4.24	Impulse voltage
Clause 4.25.5	Endurance-voltage between line terminations

Note: The tests of Groups 3B or 3C may be omitted if the capacitors in the filter are separately encapsulated and have been qualified under EN 60384-14.

Test Group II

Clause 1.5	Marking
Group 2 – Clause 4.18.5	Cold
Clause 4.18.3	Dry heat
Clause 4.19	Damp heat, steady state
Group 7 – Clause 4.27	Passive flammability

Frequency of retesting
Test Group I and Test Group II shall be alternated year by year (Rationale: rotation of the tests has been chosen because the tests considered are very expensive in term of time and cost).

33. Household and similar electrical appliances (EN 60335 series) (HOUS)

Clause 7	Markings and Instructions
Clause 8	Protection against access to live parts
Clause 14	Transient Voltages (Only if originally tested)
Clause 20	Mechanical hazard (§20.2, if applicable)
Clause 24	Components
Clause 30	*Resistance to heat and fire*
ANNEX R	Annex R (if safety software, then software version only to be checked)

Note: All other test(clauses) of EN 60335 standards should be considered according to item 2.1.4 of this document.

35. Safety of laser products, equipment and classification requirements (EN 60825-1) (TRON)

Clause 5	Labelling
Clause 6	User information

36. Flat quick-connect terminations for electrical copper conductors (EN 61210) (INST)

Clause 7	Marking and information
Clause 8	Dimensions (Sub-cl. 8.2)
Clause 8	Insertion and withdrawal force (Sub-cl. 8.3)

37. Hand-held motor-operated tools (EN 60745 series) (TOOL)

Clause 8	Markings and Instructions
Clause 9	Protection against access to live parts
Clause 19	Mechanical Hazards
Clause 23	Components
Clause 29	Resistance to heat, fire and tracking (not all parts, only critical parts based on initial report issued).

Note: All other test(clauses) of EN 60745 standards should be considered according to item 2.1.4 of this document

38. Transportable motor-operated electrical tools (EN 61029 series) (TOOL)

Clause 7	Markings and Instructions
Clause 8	protection against electric shock
Clause 18	Mechanical Hazards (§18.1)
Clause 22	Components
Clause 28	Resistance to heat, fire and tracking (not all parts, only critical parts based on initial report issued).

Note: All other test(clauses) of EN 61029 standards should be considered according to item 2.1.4 of this document.

39.1 NiCd-Batteries (EN 61951-1, EN 62133-1) (BATT)

Battery pack:

EN 61951-1	Table 31
EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.8 Overcharge

Battery cell:

EN 61951-1	Table 31
EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.6 Crushing of cells
	Clause 7.3.8 Overcharge

39.2 NiMh Batteries (EN 61951-2, EN 62133-1) (BATT)

Battery pack:

EN 61951-2	Table 34
EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.8 Overcharge

Battery cell:

EN 61951- 2	Table 34
EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.6 Crushing of cells
	Clause 7.3.8 Overcharge

39.3 Li Batteries (EN 61960-3) (BATT)

Battery pack:

EN 61960-3	Clause 5.2, 7.3.1, 7.3.3; 7.8
EN 62133-2	Clause 7.3.2 External short circuit
	Clause 7.3.6 Overcharge

Battery cell:

EN 61960-3	Clause 5.2, 7.3.1, 7.3.3; 7.8
EN 62133-2	Clause 7.3.1 External short circuit
	Clause 7.3.5 Crushing of cells
	Clause 7.3.7 Forced discharge

39.4 Ni Batteries (EN 62133-1) (BATT)

Battery pack:

EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.8 Overcharge

Battery cell:

EN 62133-1	Clause 7.3.2 External short circuit
	Clause 7.3.6 Crushing of cells
	Clause 7.3.8 Overcharge

39.5 Li Batteries (EN 62133-2) (BATT)

Battery pack:

EN 62133-2	Clause 7.3.2 External short circuit
	Clause 7.3.6 Overcharge

Battery cell:

EN 62133-2	Clause 7.3.1 External short circuit
	Clause 7.3.5 Crushing of cells
	Clause 7.3.7 Forced discharge

39.6 Li Batteries (EN 62620) (BATT)

39.7 Li Batteries (EN 62619) (BATT)

Battery pack:

EN 62620	Clause 5.1, 5.3, 6.3.1, 6.3.3, 6.5
EN 62133-2	Clause 7.3.2 External short circuit
	Clause 7.3.6 Overcharge

Battery cell:

EN 62620	Clause 5.1, 5.2, 6.3.1, 6.3.3, 6.5
EN 62133-2	Clause 7.3.1 External short circuit
	Clause 7.3.5 Crushing of cells
	Clause 7.3.7 Forced discharge

Or

Battery pack:

EN 62620	Clause 5.1, 5.3, 6.3.1, 6.3.3, 6.5
EN 62619	Clause 7.2.3 Drop test
	Clause 8.2 Overcharge & Overheating

Battery cell:

EN 62620	Clause 5.1, 5.2, 6.3.1, 6.3.3, 6.5
EN 62619	Clause 7.2.1 External short circuit
	Clause 7.2.2 Impact test of cell
	Clause 7.2.6 Forced discharge

40. Cord sets (EN 60799 and EN IEC 60799:) (INST)

Clause A.2	Polarized systems; phase (L) and neutral (N) – Correct connection
Clause A.4	Short circuit/wrong connection and reduction in creepage distance and clearance L or N to E

41. Installation couplers intended for permanent connection in fixed installations (EN 61535 and EN IEC 61535) (INST)

Test Group I

Annex A	Routine Earth (PE) continuity tests
Clause 8	Marking and documentation
Clause 10	Protection against electric shock
Clause 14	Insulation resistance and electric strength
Clause 18	Forces necessary to disengage the parts of the installation coupler
Clause 22	Screws, current-carrying parts, and connections

Clause 24	Resistance to abnormal heat and to tracking

Test Group II

Annex A	Routine Earth (PE) continuity tests
Clause 9	Dangerous compatibility
Clause 16	Temperature rise
Clause 19	Cables and their connection
Clause 20	Mechanical strength

Test Group III

Annex A	Routine Earth (PE) continuity tests
Clause 11	Terminals, terminations, and connectable conductors
Clause 12	Construction
Clause 19	Cables and their connection
Clause 21	Resistance to heat and ageing

Test Group I, Test Group II and Test Group III shall be alternated year by year (Rationale: rotation of the tests has been chosen because the tests considered are very expensive in terms of time and cost).

42. Self-Ballasted LED lamps > 50V (EN 62560) (LITE)

Clause 6	Interchangeability
Clause 12	Resistance to flame and ignition

From practical experience, the following tests may be appropriate:

Clause 7	*Protection against accidental contact with live parts*
Clause 9	*Mechanical strength*

43. AC motor capacitors (EN 60252 series) (CAP)

For Motor Running Capacitor

Test Group 1

Clause 5.6	Visual examination
Clause 8	Check markings

Test Group 2

Clause 5.13	Endurance test

Test Group 3

Clause 5.7	Voltage test between terminals
Clause 5.8	Voltage test between terminals and case

Test Group 4

Clause 5.15	Self-healing test

Test Group 5

Clause 5.16	Destruction test

Test Group 6

Clause 5.17	Resistance to heat, fire and tracking

For Motor Start Capacitor (Self-healing motor start capacitors)

Test Group 1

Clause 5.1.6 Visual examination
Clause 5.4 Check markings

Test Group 2
Clause 5.1.13 Endurance test

Test Group 3
Clause 5.1.7 Voltage test between terminals
Clause 5.1.8 Voltage test between terminals and case

Test Group 4
Clause 5.1.15 Self-healing test

Test Group 5
Clause 5.1.16 Destruction test

Test Group 6
Clause 5.1.17 Resistance to heat, fire and tracking

For Motor Start Capacitor (Electrolytic motor start capacitors)
Test Group 1
Clause 6.1.5 Visual examination
Clause 6.4 Check markings

Test Group 2
Clause 6.1.12 Endurance test

Test Group 3
Clause 6.1.6 Voltage test between terminals
Clause 6.1.7 Voltage test between terminals and case

Test Group 4
Clause 6.1.14 Pressure relief test

Test Group 5
Clause 5.1.17 Resistance to heat, fire and tracking

44. Miniature fuses (EN 60127 series) (PROT)

For EN 60127-1, EN 60127-2, EN 60127-3, EN 60127-4, EN 60127-7
Clause 6 Marking
Clause 8 Dimensions and construction
Clause 9.1 Voltage drop
Clause 9.2.1 Time/current characteristics
Clause 9.3 Rated breaking capacity
Clause 9.4 Endurance test

Testing schedule

Description		Subclause of IEC 60127-1	Sample numbers in decreasing value of voltage drop							
			1-6	7-12	13 14 15	16 17 18	19 20 21	22 23 24	25 26 27	28 29 30
Endurance test		9.4	A	s						
Rated breaking capacity		9.3			A	s				
Time/current characteristics	10 I_N	9.2.1					A	s		
	2 I_N or 2,1 I_N a)								A	s
A Tested annually. s Spare fuse-links, only used if non-conforming results are obtained.										
a) As specified in the relevant standard sheet.										

For EN 60127-6 only
Clause 6 Marking
Clause 9 Protection against electric shock

45. Electromechanical elementary relays（EN 61810-1）(CONT)

Clause 7 Marking and documentation
Clause 8 Heating
Clause 9 Basic operating function
Clause 10 Insulation resistance and dielectric strength
Clause 11 Electrical endurance

46. Intrusion and Hold-up Alarm Systems (EN 50131 series and EN 50134-2) (MISC)

Test description	For EN 50131-2-2, EN 50131-2-3, EN 50131-2-4, EN 50131-2-7-1, EN 50131-2-7-2, EN 50131-2-7-3 and EN 50134-2		For EN 50131-2-6
Self-tests	Clause 6.5		-
unauthorised access to the inside of the detector	Clause 6.7.1		Clause 6.6.2
Detector current consumption	Clause 6.8.1		Clause 6.7.2
Slow input voltage change and input voltage range limits	Clause 6.8.2		Clause 6.7.3

47. Alarm Transmission Systems (EN 50136 series and EN 50131-4, EN 50131-5-3, EN 50134-5) (MISC)

No specific tests to be performed in addition to the elements already described in §2.1.

48. Intrusion and Hold-up Alarm Systems Control and Indicating equipment and power supplies (EN 50131-3, EN 50131-6 and EN 50134-3) (MISC)

For EN 50131-3
Clause 8.7 Tamper security

Clause 8.11	Power supply

For EN 50131-6

Clause 2.6 of ~~EN 60950-1~~ EN IEC 62368-1	Earth continuity (if class I)
Clause 5 of ~~EN 60950-1~~ EN IEC 62368-1	Earth leakage, electric strength
Clause 9 of EN 62368-1, EN IEC 62368-1	Protection against electrical shock

Clause 4.15.2	Rated Output

Note: for devices which use Lithium batteries, the full conformity with EN 62133 latest edition must be checked. (Under assessment)

49. Access control Systems (EN 60839-11-1 series) (MISC)

No specific tests to be performed in addition to the elements already described in §2.1.

50. Double-capped LED lamps (EN 62776) (LITE)

Clause 5	Marking
Clause 12	Resistance to flame and ignition

From practical experience, the following tests may be appropriate:

Clause 6.1	*Interchangeability of the cap*
Clause 6.2	*Mass*
Clause 6.3	*Dimensions (at least at 25 °C)*
Clause 9.2	*Mechanical requirements for caps on unused lamps*

51. Audio/Video, information and communication technology equipment – Part 1; Safety Requirements (EN 62368-1 and EN IEC 62368-1) (ITAV)

Annex F	Equipment markings, instructions, and instructional safeguards
Clause 4	Visual check: Construction and Components
5.4.9	Electric strength test
5.6.6	Resistance of the protective bonding system
5.7	Touch current

Note: All other test (clauses) of EN 62368 standards should be considered according to item 2.1.4 of OD ENEC 324

60.7.4 Part 7-4: - Ancillary equipment - PCB terminal blocks for copper conductors (EN 60947-7-4 and EN IEC 60947-7-4) (POW)

Clause 5	Product information
Clause 5.1	Marking
Clause 5.2	Additional information

Clause 7	Performance requirements
Clause 8.3	Verification of mechanical characteristics
Clause 8.4	Verification of electrical characteristics

60.1 Low-voltage switchgear and controlgear - Part 1: General rules (EN 60947-1 and EN IEC 60947-1) (POW),

60.7.1 Part 7-1: Ancillary equipment - Terminal blocks for copper conductors (EN 60947-7-1) (POW),

60.7.2 Part 7-2: Ancillary equipment - Protective conductor terminal blocks for copper conductors (EN 60947-7-2) (POW),

60.7.3 Part 7-3: Ancillary equipment - Safety requirements for fuse terminal blocks (EN 60947-7-3) (POW)

Clause 8.3.3.4 Verification of rated cross-section and rated connecting capacity

The test shall be carried out on each clamping unit of one terminal block.

For conductors of the rated cross-section and for terminal blocks with a rated connecting capacity up to 35 mm^2, one conductor of the two next smaller cross-sections shall be inserted unhindered in the opened clamping unit and be connected.

Theoretical diameter of the largest conductor is given in Table 7a.

Table 7a – Relationship between conductor cross-section and diameter

Conductor cross-section	Theoretical diameter of the largest conductor						
	Metric			AWG/kcmil			
	Rigid		Flexible	Rigid			Flexible
					b	b Class B	c Classes I.K.M.
	Solid	Stranded		Gauge	Solid	Stranded	Stranded
mm^2	mm	mm	mm		mm	mm	mm
0,2	0,51	0,53	0,61	24	0,54	0,61	0,64
0,34	0,63	0,66	0,8	22	0,68	0,71	0,80
0,5	0,9	1,1	1,1	20	0,85	0,97	1,02
0,75	1,0	1,2	1,3	18	1,07	1,23	1,28
1,0	1,2	1,4	1,5	–	–	–	–
1,5	1,5	1,7	1,8	16	1,35	1,55	1,60
2,5	1,9	2,2	2,3 [a]	14	1,71	1,95	2,08
4,0	2,4	2,7	2,9 [a]	12	2,15	2,45	2,70
6,0	2,9	3,3	3,9 [a]	10	2,72	3,09	3,36
10,0	3,7	4,2	5,1	8	3,43	3,89	4,32
16,0	4,6	5,3	6,3	6	4,32	4,91	5,73
25,0	–	6,6	7,8	4	5,45	6,18	7,26
35,0	–	7,9	9,2	2	6,87	7,78	9,02
50		9,1	11,0 [a]	0		9,64	12,08
70		11,0	13,1 [a]	00		11,17	13,54
95		12,9	15,1 [a]	000		12,54	15,33
–		–	–	0000		14,08	17,22
120		14,5	17,0 [a]	250		15,34	19,01
150		16,2	19,0 [a]	300		16,80	20,48
185		18,0	21,0 [a]	350		18,16	22,05
–		–	–	400		19,42	24,05
240		20,6	24,0 [a]	500		21,68	26,57
300		23,1	27,0 [a]	600		23,82	30,03

NOTE Diameters of the largest rigid and flexible conductors are based on Table 1 and Table 3 of IEC 60228A and on IEC 60344 and, for AWG conductors, on ASTM B172-71 [1], ICEA Publication S-19-81 [2], ICEA Publication S-66-524 [3] and ICEA Publication S-66-516 [4].

Figures in square brackets refer to the bibliography.

[a] Dimensions for class 5 flexible conductors only, according to IEC 60228A.
[b] Nominal diameter +5 %.
[c] Largest diameter for any of the three classes I, K, M +5 %.

Clause 8.4.3 Dielectric test

Each test shall be carried out on five adjacent terminal blocks wired and installed on a metal Support.

The test voltage shall be applied first between the adjacent terminal blocks and then between all terminal blocks connected together and the support to which the terminal blocks are attached.

The value of the test voltage shall be as stated in Table 12A.

Table 12A – Dielectric test voltage corresponding to the rated insulation voltage

Rated insulation voltage U_i V	AC test voltage (r.m.s.) V	DC test voltage [b, c] V
$U_i \leq 60$	1 000	1 415
$60 < U_i \leq 300$	1 500	2 120
$300 < U_i \leq 690$	1 890	2 670
$690 < U_i \leq 800$	2 000	2 830
$800 < U_i \leq 1\,000$	2 200	3 110
$1\,000 < U_i \leq 1\,500$ [a]	–	3 820

[a] For d.c. only.

[b] Test voltages based on 4.1.2.3.1, third paragraph of IEC 60664-1.

[c] A direct current test voltage may be used only if an alternating test voltage cannot be applied. See also 3) b) ii) of 8.3.3.4.1.

61. Connectors - Safety requirements and tests (EN 61984) (INST)

Clause 6.2	Marking and identification
Clause 6.5.3	Reliability of connection to PE contacts
Clause 6.16	Temperature rise
Clause 7.3.12	Dielectric Strength

62. Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems (EN 61643-11) (PROT)

Clause 8.3.4	Operating Duty Cycle Operating Duty Cycle test per 8.3.4 followed by measured limiting voltage (MLV) per 8.3.3. Check that the MLV does not exceed the voltage protection level UP as declared by the manufacturer

63. Varistors for use in electronic equipment Part 2: Sectional specification for surge suppression varistors (EN 61051-2) (CAP)

The following test items shall be subject to complete tests or the main critical tests depending on the results of the pre-license according to the standard at least once a year.

Group 0	Clause 5.2	Visual Inspection, Marking, Dimension (Gauging)
Group 0	Clause 5.3.1	Varistor Voltage
Group 1	Clause 5.3.5	Clamping Voltage
Group 1	Clause 5.3.4	Voltage Proof
Group 2	Clause 5.6.4	Solvent Resistance of Marking
Group 3	Clause 5.3.7	Rated Energy
Group 6	Clause 5.5.2	Fire Hazard

Each group should be tested for 3 pcs samples per representative model

64. Low-voltage fuses - Part 1: General requirements (EN 60269-1)

64.4 Low-voltage fuses - Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices (EN 60269-4) (PROT)

Description	Subclause of EN 60269-1 and EN 60269-4	Quantity of samples to be tested	
Verification of AC Breaking Capacity	8.5	Test 1	3
		Test 2	3
		Test 2a	1
		Test 5	1
Verification of DC Breaking Capacity	8.5	Test 11	3
		Test 12	3
		Test 12a	1
		Test 13	1

64.6 Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems (EN 60269-6) (PROT)

Description	Subclause of EN 60269-1 and EN 60269-6	Quantity of samples to be tested
No. 1 Breaking Capacity and Operating Characteristics (Table 104)	8.5	3
No. 2 Breaking Capacity and Operating Characteristics (Table 104)	8.5	3
No. 5 Breaking Capacity and Operating Characteristics (Table 104)	8.5	1

65. Component for Low-voltage surge protective devices – Performance requirements and test methods for metal oxide varistors (MOV) (EN IEC 61643-331) (PROT)

For MOV only:

Clause 5.1	Robustness of Terminations
Clause 5.2	Solderability
Clause 8.2.1	Single Impulse Maximum Current
Clause 9.3	Nominal Discharge Current Testing
Clause 8.5	ESD Test (SMD type varistor only)

For Thermally Protected Varistors only: (Below Items Are Sequence Test)

Clause 9.2	Temperature humidity and conditioning
Clause 9.3	Nominal Discharge Current Testing
Clause 9.4	Limited Current Test
Clause 9.5	Dielectric Testing
Clause 9.6	Insulation Resistance

70.1 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements (EN 61010-1) (MEAS)

Samples shall be subject to complete tests or the main critical tests depending on the results of the pre-license according to the standard at least once a year.

Clause 4	Single fault tests
Clause 5.1.3	Mains supply
Clause 5.3	Marking durability
Clause 6	Protection against electric shock
Clause 7	Protection against mechanical hazards
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire
Clause 10	Equipment temperature limits and resistance to heat
Clause 11	Protection against hazards from fluids
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 14	Clause components and subassemblies
Clause 15	Protection by interlocks

Annex K insulation requirements not covered by clause 6.

70.010 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-010: Particular requirements for laboratory equipment for the heating of Materials (EN 61010-2-010 and EN IEC 61010-2-010) (MEAS)

Clause 4	heating device overfilling / underfilling liquid Heat Transfer Medium
Clause 6	Protection against electric shock
Clause 7	Protection against mechanical HAZARDS
Clause 8	Resistance to mechanical stresses
Clause 8.2.101	Dynamic test of horizontal heating surfaces of glass or ceramic material
Clause 9	Protection against the spread of fire
Clause 10	Equipment temperature limits and resistance to heat
Cl. 10.101	Over-temperature protection
Clause 11	Protection against HAZARDS from fluids and solid foreign objects
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 13.2.101	Implosion of vacuum ovens
Clause 14	Components and subassemblies
Clause 15	Protection by interlocks
Clause 16	HAZARDS resulting from application
Clause 17	RISK assessment
Annex K.1.3	Solid insulation for MAINS CIRCUITS

70.020 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges (EN 61010-2-020) (MEAS)

Clause 5.1.101	ROTORS and accessories
Clause 5.4.102	Cleaning and decontamination

Clause 5.4.103	Effects of chemicals and environmental influences
Clause 6	Protection against electric shock
Clause 7	Protection against mechanical HAZARDS
Clause 7.3.101	LID
Clause 7.3.102	ROTOR ASSEMBLIES
Clause 7.4.101	LABORATORY CENTRIFUGE movement during malfunction
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire
Clause 10	Equipment temperature limits and resistance to heat
Clause 11	Protection against HAZARDS from fluids and solid foreign objects
Clause 11.2.101	Steam sterilization
Clause 11.101	Refrigerated and water-cooled LABORATORY CENTRIFUGES
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 13.101	Microbiological materials
Clause 14	Components
Clause 15	Protection by interlocks
Clause 16	HAZARDS resulting from application
Clause 17	RISK assessment
Annex AA	Dynamic microbiological test method for BIOSEALS

70.030 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-030: Particular requirements for testing and measuring circuits (EN 61010-2-030) (MEAS)

Clause 5.1.5.101	Measuring circuit TERMINALS
Clause 6	Protection against electric shock
Clause 6.5.2.101	Indirect bonding for testing and measuring circuits
Clause 6.6.101	Measuring circuit TERMINALS
Clause 6.6.102	Specialized measuring circuit TERMINALS
Clause 7	Protection against mechanical HAZARDS
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire
Clause 10	Equipment temperature limits and resistance to heat
Clause 11	Protection against HAZARDS from fluids and solid foreign objects
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 14	Components
Clause 14.101	Circuits used to limit TRANSIENT OVERVOLTAGE in measuring circuits used to measure MAINS
Clause 14.102	Probe assemblies and accessories
Clause 15	Protection by interlocks
Clause 16	HAZARDS resulting from application
Clause 17	RISK assessment
Clause 101	Measuring circuits
Annex K	Insulation requirements not covered by 6.7
Annex AA	MEASUREMENT CATEGORIES

70.033 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-033: Particular requirements for hand-held multimeters and other meters, for domestic and professional use, capable of measuring mains voltage (EN 61010-2-033) (MEAS)

Clause 6	Protection against electric shock (Part 1)
Clause 6.5.1	inspection and as specified in 6.5.3, 6.5.4, or 6.5.6, as applicable
Clause 7	Protection against mechanical HAZARDS (Part 1)
Clause 8	Resistance to mechanical stresses (Part 1)
Clause 9	Protection against the spread of fire (Part 1)
Clause 10	Equipment temperature limits and resistance to heat (Part 1)
Clause 11	Protection against HAZARDS from fluids (Part 1)
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure (Part)
Clause 13	Protection against liberated gases and substances, explosion and implosion (Part 1)
Clause 14.	Components and subassemblies
Clause 14.101	Circuits or components used as TRANSIENT OVERVOLTAGE limiting devices in measuring circuits used to measure MAINS
Clause 14.102	Probe assemblies and accessories
Clause 15	Protection by interlocks
Clause 16	HAZARDS resulting from application
Clause 16.101	Over-range indication
Clause 17	RISK assessment
Clause 101.1	Measuring circuits: checked as specified in 6.6, 101.2, 101.3, Clause 16 and Clause 17 as applicable.
Clause 101.2	Current measuring circuits: checked by inspection, and overload tests
Clause 101.3	Protection against mismatches of inputs and ranges checked by inspection, evaluation of the design of the equipment, and as specified in 101.3.2 to 101.3.3, as applicable Test leads for the tests of 101.3.2 and 101.3.3
Clause 101.4	Functional integrity
Annex K	Insulation requirements not covered by 6.7
Annex AA	Measurement categories

70.081 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes (EN 61010-2-081 and EN IEC 61010-2-081) (MEAS)

Clause 6	Protection against electric shock (Part 1)
Clause 7	Protection against mechanical HAZARDS
Clause 7.3.2	Markings
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire (Part 1)
Clause 10	Equipment temperature limits and resistance to heat (Part 1)
Clause 11	Protection against HAZARDS from fluids (Part 1)
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure (Part)
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 13.101	biohazard symbol
Clause 14.	Components and subassemblies (Part 1)
Clause 15	Protection by interlocks alternative method with functional safety
Clause 15.1	

70.101 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment (EN 61010-2-101) (MEAS)

Clause 6	Protection against electric shock (Part 1)
Clause 7	Protection against mechanical HAZARDS
Clause 7.3.2	Markings
Clause 7.3.3	RISK assessment for mechanical HAZARDS to body parts
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire (Part 1)
Clause 10	Equipment temperature limits and resistance to heat (Part 1)
Clause 11	Protection against HAZARDS from fluids (Part 1)
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure (Part)
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 13.101	biohazard symbol
Clause 14.	Components and subassemblies (Part 1)
Clause 15	Protection by interlocks
Clause 15.1	alternative method with functional safety
Clause 16	HAZARDS resulting from application
Clause 16.2	Ergonomic aspects: i.e., IEC 62366, EN 894-3, ISO 9241
Clause 17	RISK assessment: ref. to ISO 14971

70.201 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment (EN 61010-2-201 and EN IEC 61010-2-201) (MEAS)

Clause 6	Protection against electric shock
Clause 7	Protection against mechanical hazards
Clause 8	Resistance to mechanical stresses
Clause 9	Protection against the spread of fire
Clause 10	Equipment temperature limits and resistance to heat
Clause 11	Protection against hazards from fluids
Clause 12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure
Clause 13	Protection against liberated gases and substances, explosion and implosion
Clause 15	Protection by interlocks

71. Thermal-links - Requirements and application guide (EN 60691) (CONT)

Clause 11.3	Rated Functioning Temperature Test: Quantity Tested – Three samples Acceptance Criteria: ✓ Each thermal link shall function within +0, -10°C of the rated functioning temperature.
Clause 10.3	Interrupting Current Test: Quantity Tested – Three samples a) Different Tf, voltage, current and load (resistive, inductive or motor) Acceptance Criteria:

- ✓ Each thermal-link shall interrupt the applied current and voltage as specified above.
- ✓ There shall be no damage to the integral leads of the thermal-link.
- ✓ The case of the thermal-link shall remain intact and no material shall be expelled from the sample.
- ✓ The measured insulation resistance shall not be less than 0.2 MΩ across the disconnect and no less than 2 MΩ from the lead wires to the sample case.
- ✓ The sample shall also withstand the dielectric voltage as specified above without flashover or breakdown.

Clause 11.4 Maximum Temperature Limit:
Quantity Tested – Three samples
a) Different Tm.
Acceptance Criteria:

- ✓ At the conclusion of the test, each sample shall have functioned.
- ✓ The measured insulation resistance shall not be less than 0.2 MΩ across the disconnect and no less than 2 MΩ from the lead wires to the sample case.
- ✓ The sample shall also withstand the dielectric voltage as specified above without flashover or breakdown.

72. Central power supply systems for emergency lighting

EN 50171 (ITAV)

Clause 6.1.3 Resistant to heat and fire
Clause 6.10 Electric strength

When applicable:

EN 62368-1 and EN IEC 62368-1 (ITAV)

Clause 5 Electrically caused Injury
Clause 6 Electrically caused fire
Clause 7 Injury caused by hazardous substances
Clause 8 Mechanically caused injury
Clause 9 Thermal burn injury
Clause 10 Radiation

EN IEC 62485-2 (ITAV)

No test necessary

73. Application of IK code IEC 62262 for luminaires (HOR)

EN 62262
IEC TR 62696