	PERMANENT DOCUMENT	**ENEC 303 Annex AB**

Annex AB
to Routine Test Requirements for manufacturers
(as per Article 9 of the Agreement)

Automatic electric controls for electrical household appliances covered by the EN 60730 series

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EEPCA, the European Electrical Products Certification Association
17 rue de l'Amiral Hamelin – F-75783 Paris Cedex 16 – Tel: +33 140373563 – Email: secretariat@eepca.eu
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Annex AB to PD ENEC 303

Automatic electric controls for electrical household appliances covered by the EN 60730 series

EN 50344-1 Particular requirements for routine tests

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1. ROUTINE TESTS (100%)

1.1 Earth continuity test

For class I appliances, a current of at least 10 A derived from a source having a no-load voltage not exceeding 12 V, is passed between:
- The earthing terminal
- The earthing termination or
- The earthing contact
- Each other accessible part required to be connected thereto, in turn if applicable.

The voltage drop is measured and the resistance is calculated from the current and voltage drop. The resistance shall not exceed 0.1 Ω.

NOTE 1: The test is only carried out for the duration necessary for the measurement to be performed. The test should be carried out for at least 1 second.

NOTE 2: Care is to be taken to ensure that the contact resistance between the tip of the measuring probe and the metal part under test does not influence the test results.

NOTE 3: The resistance of any external conductor or internal conductor is not included in the resistance measurement, but the resistance of any integrated conductor is included.

1.2 Electric strength test

The test is conducted between live parts and all metal surfaces accessible to the user including foil or a suitable alternative on accessible non metallic surfaces when the control is mounted as declared.

A substantially sinusoidal AC test voltage having a frequency of 50 Hz or 60 Hz is applied between live parts and:
- Accessible metal surfaces
- Accessible non-metallic surfaces covered by metal foil or a suitable alternative separated form live parts
- Metal parts separated by basic insulation only

The values shown in the following table shall be applied for at least 1 second.

Application of test voltage on [1]	Test voltage V		
	Protection Class I	Protection Class II	Protection Class III
Basic insulation [2]	1000 V	---	400 V
Double insulation [2]	2500 V	2500 V	---
Reinforced insulation [2]	2500 V	2500 V	---
Basic insulation [3]	---	1000 V [4]	---

1) Special components which might render the test impractical, such as electronic parts, neon lamps, coils or windings shall be disconnected at on pole or bridged as appropriate to the insulation being tested.
2) Between live parts and accessible metal parts
3) Between live parts and metal parts
4) This test may be carried out on components during assembly.

No flash over or breakdown shall occur during the tests.

NOTE 1: The circuit used for the test incorporates a current sensing device which trips when the current exceeds 5 mA. However, it may be necessary to set the device to trip at a higher value which shall not exceed 30 mA. Tripping of the device shall indicate break-down by audible and/or visual means. The high voltage transformer shall be capable of maintaining the specified voltage until the tripping current flows.

NOTE 2: Instead of being subjected to an AC voltage, the insulation may be subjected to a DC voltage of 1.5 times the value shown in the table. An AC voltage having a frequency up to 5 Hz is considered to be a DC voltage.

1.3 Functional and performance test

The functional or performance tests shall be carried out to show the correct functioning of the appliance. These tests are considered the responsibility of the manufacturer and shall be carried out at the manufacturer's discretion unless otherwise specified in clause 2 of this standard.

2. PRODUCT VERIFICATION TESTS (PVT)

The product verification tests shall be carried out in addition to the routine tests.
The manufacturer shall at least perform the following tests:
2.1 Heating according to Clause 14
2.2 Endurance according to Clause 17
2.3 Visual inspection of the components. Components used in comparison with the components list documented during type testing. (clause 24)

A sample of each series/family (same basic construction) shall be subject to complete test or the main critical test depending on the results of the pre-license according to the standard at least once a year.

3. RECORDS

All test results shall be kept available. The choice of support and format for reports is left to the manufacturers; separate forms (one for each equipment), or grouped according to the most suitable parameters (periods of time, model, etc.) are equally acceptable.
The only obligation is the availability of data and their immediate interpretability for all equipment leaving the production line.

For every device tested, the following data shall be filed:

- date of test
- model or type designation of the device
- serial number of the device or another identifier permitting the identification without ambiguity
- value of earthing circuit resistance with the corresponding current value (*)
- value of voltage applied during the electric strength test (*)
- quick reference information that the whole set of tests has/has not been successful reference to test equipment used for the tests.

As an alternative to the values referred with an (*) above, the information of the accomplishment of each test (e.g. pass or fail) is permitted, if the pass/fail criteria are described elsewhere on the test report.