



PERMANENT DOCUMENT

**ENEC 303
Annex O**

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

**Safety of information technology equipment including
electrical business equipment covered by EN 60950-1**

Approved by:	ENEC Group Postal Vote of 6 October 2010	No. of pages: 3
Date of issue:	December 2010	
Supersedes:	PD ENEC 303 Annex O – November 2009	Page 1 of 3

Annex O to PD ENEC 303

Safety of information technology equipment including electrical business equipment covered by EN 60950-1

EN 50116 Particular requirements for routine tests

1. ROUTINE TESTS (100%)

1.1 Visual check of marking and workmanship

1.2 Earth continuity test only for Class I

The purpose of this test is to check that the resistance between accessible parts required to be reliably earthed for safety reasons and the protective earthing terminal or earthing contact is not higher than 0.1 Ω .

The test shall be carried out by circulating a test current 1.5 times the current capacity of any hazardous voltage circuit, but not more than 25 A (AC or DC), for the time required to obtain a meaningful reading through parts to be tested and the protective earthing terminal or earthing contact.

It is permitted to include the power cord (if any) in the resistance measurement, and, if the result exceeds 0.1 Ω , to subtract the resistance of the protective earthing conductor of the power cord.

1.3 Electric strength

The test is performed by applying to the complete equipment a sinusoidal AC voltage of at least 1500 V (for basic insulation) or 3000 V (for reinforced insulation) 50 Hz or 60 Hz, or an equivalent DC voltage, selected and applied in accordance with clause 5.3 of EN 60950-1.

The test voltage shall be applied between the primary circuit and the accessible conductive parts, excluding secondary circuits, and shall be maintained for at least one second and no more than 6 seconds.

Testing of components which bridge primary and secondary circuits shall be performed before final assembly.

NOTE 1: Separate testing of components is necessary because tests between the primary circuit and accessible conductive parts of the complete device will not necessarily check components and insulation connected between primary and secondary circuits.

No insulation breakdown shall occur during the tests.

For the purpose of this standard, an insulation breakdown, as indicated by a trip current, is defined as any significant increase from the steady state current measured during the electric strength test.

The test equipment shall be provided with a means of indicating the test voltage and the insulation breakdown, e.g. visible and/or audible. The trip current level shall be determined by the manufacturer of the equipment under test.

NOTE 2: The trip current should be set at the minimum practical value. As a reference this value is usually in the order of few μA for DC measurements. For AC measurements the current flowing through the RFI filter capacitors has to be taken into account (max. current should not exceed 30 mA).

NOTE 3: When testing a device incorporating solid-state components that might be damaged by a secondary effect of the test, the test may be conducted without the components electrically connected, providing that the wiring and terminal spacing are maintained.

1.4 Components

It is assumed that components comply if they bear a certification mark of an ECS certification body.

If components are manufactured by the supplier and do not bear a certification mark, he has to add to each delivery a confirmation that the relevant tests on the components are performed.

The manufacturer of information technology equipment is responsible for the proper performance of the tests.

In any doubt, the certification body is allowed to inspect the component manufacturer.

2 PERIODIC TESTS (PVT)

A sample of each series/family (same basic construction) 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.

The above mentioned tests have to be specified by the manufacturer in a testing or working instruction.

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.

[Note: EN 50116 superseded by EN 50514 (dow: 2011-07-01)]