



PERMANENT DOCUMENT

**ENEC 303
Annex Z**

**Annex Z
to Routine Test Requirements for manufacturers
(as per article 9 of the Agreement)
Audio, video and similar electronic apparatus
covered by EN 60065**

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ANNEX Z to PD ENEC 303

Audio, Video and similar electronic apparatus covered by EN 60065

1. Routine test (100%)

1.1 Earth continuity test

For Class I appliances, a current of at least 10 A, derived from an a. c. source having a no-load voltage not exceeding 12 V, is passed through the earth contact of the mains plug or the appliance inlet or between the protective conductor terminal of a non-detachable apparatus and

- the accessible conductive parts including terminals which can be considered as accessible¹⁾ and which should be connected with the protective conductor terminal;
- the earth contact of sockets that are determined for the power supply of other apparatus;

This current shall be applied for 1 to 4 seconds.

As a result of the above mentioned test the measured resistance should not exceed:

- 0,1 Ω for apparatus with detachable supply cord.
- 0,2 Ω for apparatus with non-detachable supply cord.

Note: Care should be taken that the contact resistance between the tip of the measuring probe and the conductive part to be tested does not influence the test results.

1.2 Dielectric strength test

The insulation of the apparatus should be checked by applying a nearly sinusoidal a. c. test voltage having mains frequency or a d. c. test voltage or a combination of both with a peak value specified in table 1.2, is applied between the mains supply terminals connected in parallel and

- terminals that can be considered as accessible¹⁾
- accessible conductive parts

which can become hazardous in case of an insulation failure resulting from incorrect assembly.

Note: terminals considered as accessible and accessible conductive parts may be connected during the dielectric strength test.

¹⁾ Non-accessible contacts of terminals except those marked by a picture or used for connecting the apparatus to the mains or supplying other appliances, can be considered as accessible.

Table 1.2

Test voltage on	Test voltage V (peak value) a. c. or d. c. voltage	
	Rated supply voltage < 150 V	Rated supply voltage > 150 V
basic insulation	1130 V (800 V r.m.s value)	2120 V (1500 V r.m.s value)
double or reinforced insulation	2120 V (1500 V r.m.s. value)	3540 V (2500 V r.m.s value)

Prior to the application of the test voltage, a good contact with the specimen has to be established. In the beginning not more than half of the required test voltage shall be applied, then the test voltage is being increased with a steepness of more than 1560 V/ms to the full value which is kept for 1 s to 4 s.

Note: steepness of 1560 V/ms is equal to the steepness of a sinusoidal oscillation having a mains frequency of 60 Hz.

During the test, as far as available, power switch and functional switch, which are conductively connected with the system, should be in "ON"-position and it has to be guaranteed by suitable measures that the test voltage is really applied to the specimen.

During the test neither a flashover nor breakdown shall occur. The test voltage source should have a current-sensitive (over-current) device tripping a failure indication when responding.

The voltage source is loaded up to the operating current, it should nevertheless supply the prescribed voltage.

Note: The operating current should not exceed 100 mA. The operation of the current-sensitive device is considered as flashover or breakdown.

1.3 Safety relevant markings

The legibility of safety relevant markings on the outside of the apparatus, for example with regard of the supply voltage, shall be checked.

2. Periodic tests

A sample of each series/family (same basic instruction) shall be subjected to complete tests or the main critical tests depending on the results of the pre-licence tests according to the standard at least once every two year.