



PERMANENT DOCUMENT

**ENEC 303
Annex AK**

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

**Installation couplers intended for permanent connection
in fixed installations covered by EN 61535**

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Annex AK to PD ENEC 303

Installation couplers intended for permanent connection in fixed installations covered by EN 61535

1 ROUTINE TESTS (100%)

1.1 Visual Inspection

Visual inspection of the installation coupler shall take place.

Marking and design have to be checked i.e. check if the product is complete; visual errors shall not exist.

1.2 Routine Earth (PE) continuity test

All factory-wired installation couplers shall be subjected to the following test. This test does not apply to distribution blocks for which incorrect wiring is reliably prevented by design.

The test on earth (PE) continuity shall be made using SELV applied for a period of not less than 2 s between the corresponding PE male and/or female contacts of the installation coupler at each end of the cable.

NOTE 1: The period of 2 s may be reduced or other type of voltages may be used if correct results can be guaranteed with automatic timing.

NOTE 2: Any other suitable test which proves that the earth continuity is present is also acceptable.

Earth continuity shall be present.

1.3 Dielectric strength test

(Short circuit/wrong connection and reduction in creepage distance and clearance current carrying conductors to protective Earth (PE) conductor)

The test shall be made between current carrying conductors and the earthing conductor by applying at each end of the cable an a.c. voltage of 1500 V ($\pm 3\%$), 50 Hz or 60 Hz for a period of not less than 2 s.

NOTE 1: The period of 2 s may be reduced to not less than 1 s on test equipment with automatic timing.

No flashover shall occur.

NOTE 2: The current carrying conductors may be connected together for this test.

NOTE 3: The dielectric strength test has to be performed on factory-wired products only.

1.4 Skin test

It shall be checked that live parts, e.g. loose strands, are not accessible.

The following tests shall be performed unless it can be clearly demonstrated that this can be prevented by the construction itself and suitable manufacturing process.

If this cannot be assured by the design or the production method itself then the following test is to be carried out.

The hazardous parts of the external surface of the installation coupler, except the engagement faces, are to be scanned with adapted surface electrodes at a pressure of 20 N whilst a voltage of 2000 V AC is applied on the live parts for at least 1 s.

Neither a flash-over nor a breakdown shall occur.

NOTE 1: The max. tripping current is not to be higher than 100 mA. It is recommended to set the tripping device to 30 mA or less. The high voltage transformer is to be capable of maintaining the specified voltage until the tripping current flows. Tripping of the current sensing device (indicated by audible and/or visual means) is considered a breakdown.

2 PRODUCT VERIFICATION TESTS (PVT)

(at least once a year)

2.1 Protection against electric shock

The test has to be performed according to Clause 10.

2.2 Temperature rise

The test has to be performed according to Clause 16.

2.3 Forces necessary to disengage the parts of the installation coupler

The test has to be performed according to Clause 18.

2.4 Cables and their connection

The test has to be performed according to Clause 19.

2.5 Mechanical strength

The test has to be performed according to Clause 20.

2.6 Screws, current-carrying parts and connections

The test has to be performed according to Clause 22.

NOTE 1: The number of sets of test samples used for the tests and the sequence of tests for each set shall be according to Annex C.