

Before Use Inspection of Electrical Test Equipment

Objective

To identify the checks that must be carried out before test equipment can be used. Types of equipment are:

- test lamps
- voltmeters
- portable RCDs used for fault finding / maintenance activities
- insulation resistance testers
- ohmmeters
- fault loop impedance testers
- RCD timing testers
- multimeter
- Phase rotation meters.

Method

Any item that is not in-test or does not indicate in an acceptable manner will not be used.

General

Test equipment is divided into a number of categories depending on the situation and possible fault current that could occur at the test point. Test leads that are supplied with a particular type of instrument are not to be used on an instrument with a different category. Categories are:

- **Installation Category I:** Relates to signal level, special equipment or parts of equipment, telecommunications, electronic and similar equipment. Impulse withstand voltage: 1500V.
- **Installation Category II:** Relates to the local level, appliances, equipment sub circuits, portable equipment etc. Impulse withstand voltage: 2500V.
- **Installation Category III:** Relates to the distribution level, main switchboards etc. Impulse withstand voltage: 4000V.
- **Installation Category IV:** Relates to the primary supply level, overhead lines etc. (unprotected mains on the supply side of the service fuses). Impulse withstand voltage: 6000V.

If faulty equipment is identified, raise this with your line manager to be replaced.

For all test methods, ensure leads are in good working order before testing by performing an adequate test, such as a visual check and testing for continuity.

Note: Any equipment that has been marked out of service or out of date shall not be used until repaired and/or calibrated by a qualified person.

Test lamps

Test lamps will be tested to prove they are in proper working order before and after each use. Test lamps are only to be used to identify voltage when a circuit protective device of 100 amps or less protects the electrical equipment being tested.

Voltmeters

Voltmeters used to identify whether voltage is present shall be tested to prove they are in proper working order before and after each use.

When a voltmeter is used to measure voltage (against identifying whether voltage is present) the test tag on the instrument shall be checked to ensure the instrument is in-test.

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Portable RCDs used for fault finding / maintenance activities

Before being used the test button will be pressed to ensure the instrument is working and the test tag will be checked to ensure the instrument is in-test.

Insulation resistance testers

Before use the test tag will be checked to ensure the instrument is in-test.

Ohmmeters

Before use the test tag will be checked to ensure the instrument is in-test.

Fault loop impedance meters

Before use the test tag will be checked to ensure the instrument is in-test.

RCD timing testers

Before use the test tag will be checked to ensure the instrument is in-test.

Multimeter

Before use the test tag will be checked to ensure the instrument is in-test.

Phase rotation meters

Phase rotation meters will be inspected to prove they are in safe working order before each use.