

# Minimum standard for inspection and testing of rented domestic accommodation.

## Introduction

If you are a landlord, or otherwise responsible for the maintenance of a property used for the purpose of rented accommodation, or an electrician carrying out electrical inspections of such properties, this guide sets out the minimum degree of inspection and testing that is necessary to be able to confirm that the electrical installation of the existing domestic premises and any appliances supplied with a property as part of a rental agreement remain safe for continued use.

## Scope

The guidance is aimed at the individual dwelling units in flats, maisonettes, bungalows and houses. It is also applicable to houses in multiple occupation (HMOs).

The scope of this guide is limited to the fixed installation within the property; socket-outlets likely to be used to supply portable equipment for use outdoors; and external lighting attached to the external walls of the premises. It does not however consider the inspection and testing of additional elements of an electrical installation that may be encountered in a dwelling such as those listed below, which fall outside of its scope (the list is not exhaustive):

- Swimming pools
- Hot tubs
- Garden lighting schemes

However, if rented accommodation contains such additional elements, the electrical installations in such areas will also require periodic inspection and testing and the frequency and extent of this will need to be agreed by the client and the competent person carrying out the work.

This guide is also applicable to any electrical fixtures and fittings and any appliances provided by the landlord under the tenancy.

This guide does not describe how the inspection and testing should be carried out. *BS 7671: 2008* (as amended) *Requirements for electrical installations* is the principal UK standard relating to the design, selection, erection, inspection and testing of electrical installations. Whilst the standard is non-statutory, compliance with it is likely to achieve compliance with relevant aspects of the *Electricity at Work Regulations* (EWR).

Regulation 16 of the EWR requires persons carrying out electrical work, including inspection and testing, to be competent in the work activities being performed to prevent danger and injury.

## Obligations of the person ordering the work

Prior to the inspection and testing work taking place, the person ordering the work must ensure the following:

- The installation is energised (an electrical supply is available)
- All parts of the installation falling within the agreed extent of the inspection are accessible
- In the case of premises such as flat blocks access has been arranged to a communal location such as the intake position to the building.

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- All appliances supplied as part of the tenancy agreement are available for inspection

## **Extent of the fixed installation to be inspected and tested**

The extent of the existing installation to be covered by a periodic inspection should be agreed in advance between the person carrying out the inspection and testing and the person ordering the work.

A number of factors must be taken into consideration when deciding upon the extent, including:

- the size of the installation
- the requirements of third parties, such as insurance providers and licensing authorities
- the requirements of relevant legislation
- the age and general condition of the electrical installation and appliances
- whether or not it is acceptable for all, or parts of, the installation to be isolated from the supply
- acceptable durations of any agreed isolation of supply
- mutually agreeable times for the inspection and testing to be carried out
- the time elapsed since the initial verification was completed, or the last periodic inspection was carried out
- the availability of records relating to the installation, maintenance and previous inspections of the installation and appliances
- the effectiveness of any on-going maintenance as evidenced during the inspection process.

The extent (as well as the results) of the periodic inspection and testing of the fixed installation should be recorded in the Electrical Installation Condition Report (EICR) that is issued to the person who ordered the inspection on completion of the inspection and testing process.

All portable appliances and fixed equipment provided by the landlord must be inspected and, if required, tested. If any fixtures are not specifically included in the remit of the EICR they should be included in the portable appliance testing.

## **Limitations on the inspection and testing**

Any limitations of the inspection and testing of the fixed installation must be stated on the EICR as should the justification for those limitations.

There should be little need to record limitations on the inspection and testing of properties falling within the scope of this specification. However, where limitations are deemed necessary, these should be agreed with the person ordering the work prior to work starting, and the name of the person who agreed the limitations should be recorded on the EICR. However, it is **important** that neither the person ordering the work nor the person carrying out the work imposes limitations unnecessarily, as this would result in the report having less validity.

## **Liabilities**

The liability of the person carrying out the work is limited to those items that have been stated as forming part of the inspection and testing as agreed by the client (the extent).

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The liability of the client includes all parts of the installation, including those parts which the client has chosen to exclude from the inspection and testing and any parts that could not be inspected due to operational limitations that occur during the inspection which the client does not subsequently have inspected.

## **Inspection and testing of the fixed installation**

### **Inspection**

An installation should preferably be inspected before any testing is carried out as defects or signs of significant damage might be found that would have made testing of the installation dangerous to the occupants of the building, or to the person(s) carrying out such work. Furthermore, such defects or deterioration might also render any test results obtained invalid.

Wherever possible the inspection should be carried out with the installation, or at least that part of it which is under scrutiny, disconnected from the supply.

Since the introduction of amendment No 1 in 2011, Appendix 6 of *BS 7671* has contained an inspection schedule specifically tailored for use during the periodic inspection of smaller installations including those of domestic dwellings. This schedule was modified in Amendment 3 of 2015.

**All items listed on this schedule should be inspected unless a particular inspection item is not applicable to the installation in question.**

Examples of items that might not be applicable in all cases include:

- Presence of adequate arrangements for other sources (such as microgenerators)
- Presence of alternative supply warning notice at or near consumer unit
- Confirmation of indication that any installed surge protective device (SPD) is functional

The condition and adequacy of the following should be checked in all cases:

- Incoming supply arrangements
- Main earthing and bonding
- An internal visual inspection of every consumer unit and similar switchgear and confirmation that all conductors are correctly located in terminals and are tight and secure (based on manufacturer's specification)
- An external visual inspection of **all** accessible electrical equipment (light fittings, switches, socket-outlets etc.)
- A close inspection of the terminations and connections at a representative number of items of electrical equipment on every final circuit and, in particular where the external visual inspection has raised concerns – details of which items were inspected and their location should be recorded on the EICR for future reference or, if appropriate, on a separate sheet or sheets attached to EICR and to ensure that different items are subjected to inspection at subsequent inspections.

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In “an average” domestic property the following sample size should be subjected to close inspection:

- two lighting fittings per lighting circuit
- two switches per lighting circuit – one should be two-way or intermediate where applicable
- two socket-outlets per ring final or radial circuit
- one accessory per radial circuit.

Where defects are noted with respect to the items selected initially further items should be inspected.

## Testing

### Sequence of tests for periodic inspection

Whilst no specific sequence of tests is stated for periodic testing in *BS 7671*, the following order is appropriate when carrying out a periodic inspection of circuits within a typical domestic installation:

- i) Polarity of incoming supply
- ii) External earth fault loop impedance **or** Earth electrode resistance
- iii) Prospective fault current at the origin (by calculation)

Followed by the following tests on all circuits of the installation:

- iv) Continuity of protective conductors to all accessible exposed conductive parts **and** continuity of ring final circuit conductors
- v) Insulation resistance
- vi) Polarity at every accessible socket-outlet, single-pole switch and Edison Screw lampholder
- vii) Earth fault loop impedance of every accessible socket-outlet and, so far as can be determined, the furthest point of every final circuit (e.g. a lighting circuit).
- ix) Tests to verify operation of all RCDs providing fault protection
- x) Tests to verify operation of all RCDs providing additional protection
- xi) Any functional testing deemed appropriate.

### The condition report

Following the inspection and testing activities an Electrical Installation Condition Report based on the model forms given in *BS 7671: 2008 (as amended) Requirements for electrical installations* should be given to the person who ordered the work.

The EICR should always be accompanied by:

- an inspection schedule, and

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- a schedule of test results.

### Overall outcome of the inspection and testing

On completion of the inspection and testing the person compiling the Electrical Installation Condition Report must state whether, in their professional opinion, the electrical installation is satisfactory or unsatisfactory for continued use.

An electrical installation cannot be considered to be satisfactory for continued use if any observation made in the condition report has been classified as:

- presenting a danger (code C1), or
- being potentially dangerous (code C2), or
- Requiring further investigation (FI) - although such an observation should only very rarely be necessary for observations relating to domestic electrical installations.

Further information on periodic inspection reporting can be found in Electrical Safety First's Best Practice Guide No 4 – Electrical installation condition reporting: Classification codes for domestic and similar electrical installations which, along with all the other Electrical Safety First best Practice Guides, can be downloaded free of charge from:

<http://www.electricalsafetyfirst.org.uk/electrical-professionals/best-practice-guides/>

### Inspection and testing of portable appliances

The following inspection and testing is applicable to portable/movable electrical equipment:

- Class I equipment - combined visual inspection and testing.
- Class II equipment operating at above extra-low voltage - formal visual inspection

No inspection and testing is necessary for battery powered or extra-low voltage equipment.

Any appliance which fails to pass a Portable Appliance Test must be replaced or repaired immediately.

All items equipment provided as part of a tenancy agreement should be listed on an **equipment register**.

The results of the inspection and testing that has been carried out should be recorded on an **equipment formal visual and combined inspection and test record**.

All items that pass the inspection and, where relevant, testing to which they have been subjected should have a **PASS** label affixed. All items that fail should have a **FAIL** label affixed and should be removed from service.

Details of any items that have failed inspection / testing and subsequently repaired should be recorded on a **repair register**

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The equipment register, equipment formal visual inspection and test record and repair register should be specific to a single property. If an item is removed from use at a property it should also be removed from the relevant documentation for that property from the date of its removal.

Model forms and associated guidance can be found in the *IET Code of practice for in-service inspection and testing of electrical equipment (4<sup>th</sup> Ed)*.