

## **ARHM GOOD PRACTICE NOTE**

### **WIRING AND TESTING IN RETIREMENT ACCOMMODATION**

#### **Periodic Inspection**

Electrical Equipment (Safety) Regulations 1994 requires periodic inspection and testing of each installation.

The inspection comprising careful scrutiny of the installation is carried out without dismantling or with partial dismantling as required, supplemented by testing.

The frequency of periodic inspection and testing is determined by the type of installation, its use and operation, the frequency of maintenance and the external influences to which it is subjected.

#### **Wiring Inspections**

Guidance notes on the Wiring Regulations published by the Institution of Electrical Engineers suggests a maximum period between inspections of 10 years for domestic premises and 5 years for commercial. For most schemes of sheltered accommodation 10 years should be considered the maximum.

The tests required and the sequence in which they must be performed are shown below: (taken from IEE Guidance Note 1)

1. Continuity of protective conductors and earthed equipotential. bonding
2. Polarity.
3. Earth fault loop impedance.
4. Insulation resistance.
5. Operation of switches and isolators.
6. Operation of residual current devices.

Together with the following where appropriate:

1. Continuity of ring final circuit conductors.
2. Earth electrode resistance.
3. Manual operation of circuit breakers.
4. Electrical separation of circuits.
5. Insulation resistance of non-conducting floors and walls

#### **Residual Current Devices (RCD)**

A notice should be fixed in a prominent position where an installation incorporates a RCD and read as follows:

"This installation, or part of it, is protected by a device which automatically switches off the supply if an earth fault develops. Test quarterly by pressing the button marked "T" or "Test". The device should switch off the supply and should then be switched on to restore the supply. If the device does not switch off the supply when the button is pressed, seek expert advice".

Residents should be advised to observe this recommendation and Managers should undertake the test for any RCD serving the communal areas. It should be noted that the test may require certain equipment or digital clocks to be reset.

### **Portable Residual Devices**

In the case of residents controlling supplies for handled portable equipment, this should be the responsibility of the equipment user.

### **Portable Appliance Inspection and Testing**

A portable appliance is generally any equipment that has a lead (cable) and plug and is capable of being moved from place to place, this also includes equipment rarely moved, e.g. photocopier, refrigerator, etc.

Regulations state that systems must be maintained, so far as is reasonably practicable, to prevent danger. The Regulations do not prescribe the measures to be taken but recommendations can be taken from the Health and Safety Executive guidance:

[www.hse.gov.uk](http://www.hse.gov.uk)

Most electrical faults can be identified by a thorough visual examination, without any dismantling, by a competent person after some basic training.

Although a formal visual inspection is required for all equipment over 50 volts, testing will normally only be required for earthed equipment and associated cables and extension leads.

The suggested frequency of testing ranges from 1-5 years, depending on the equipment, its use and its environment. Generally, equipment which is held by hand or handled when switched on, will present a greater degree of risk because, if it does develop a dangerous fault, then the person holding it will almost certainly receive an electric shock.

The duty implied under the Electricity at Work Regulations 1989, allows those responsible for setting up a maintenance regime to choose intervals of inspections and tests as appropriate, taking the above points into consideration along with the guidance given in publications, such as HSE's booklet. 'Maintaining portable electrical equipment in offices and other low risk environments' (extract – Table 1 below). The programme should be reviewed and readjusted as necessary in light of experience.

**Table 1 - Offices and other low risk environments only. Suggested initial intervals**

Equipment / Environment	User checks	Formal Visual Inspection	Combined Testing and Inspection
Battery Operated: (less than 20 volts)	No	No	No

Extra low voltage: (less than 50 volts AC) eg telephone equipment, low voltage desk lights	No	No	No
Information Technology eg desktop computers, VDU screens, photocopiers, fax machines: NOT hand-held. Rarely moved.	No	Yes 2 – 4 years	No if double insulated – otherwise up to 5 years
Double insulated equipment: NOT hand-held. Moved occasionally eg fans, table lamps, slide projectors	No	Yes 2 – 4 years	No
Double insulated equipment: Hand-held eg some floor cleaners	Yes	Yes 6 – 12 months	No
Earthed Equipment (Class 1): eg electric kettles, some floor cleaners	Yes	Yes 6 – 12 months	Yes 1 – 2 years
Cables (leads) and plugs connected to the above. Extension leads (mains voltage)	Yes	Yes 6 months – 4 years, depending on the type of equipment it is connected to	Yes 1 – 5 years, depending on the type of equipment it is connected to

#### Notes for Table 1:

Cables, leads and plugs connected to Class II equipment should be maintained as part of that equipment. Cables leads and plugs not dedicated to an item of equipment should be maintained as individual items as appropriate.

Over time, when you look at the results of user checks, formal visual inspections and portable appliance tests you will notice trends. These may tell you that you need to look at or test electrical equipment more or less often, depending on the number of problems being found.

If electrical equipment is grouped together for testing at the same time, you should use the shortest testing interval in the group rather than the longest. Alternatively, it may be appropriate to group your electrical equipment by testing interval.

#### Scheme based staff Safety

Estate based staff should be reminded that light bulbs and fuses should only be removed and replaced with the power turned off. Failure to observe this simple instruction is not only a breach of the Electricity at Work Regulations 1989, but could also have serious consequences from a burn, fire or electric shock.

DISCLAIMER:

These notes have been prepared in the light of legislation and case law existing at the time of publication as a recommended procedure only. No liability can be accepted by the Association of Retirement Housing Managers for errors or omissions or for any loss or damage sustained by anyone acting in accordance with these notes. If the reader is in any doubt as to the application of these notes to particular circumstances they should consult a Solicitor.