1.0 Introduction

Technological University Dublin (TU Dublin) shall ensure that portable electrical equipment which is exposed to conditions likely to cause deterioration and consequent danger, and is supplied at a voltage in excess of 125 volts AC, undergoes a visual check by the user and is periodically inspected by a competent person to establish the ongoing safety of the equipment.

The nature and frequency of these inspections will vary dependent on the use (as specified by manufacturer or where it is subject to heavy wear and tear) and location of the equipment. In addition to these periodic inspections, the portable electrical equipment and associated leads and plug tops must be tested and certified as being safe by a person competent to carry out such tests.

If the certificate issued indicates that the equipment is not safe, then this equipment must not be used until it has been made safe and has been certified as such.

It is anticipated that equipment located in environments where it is safe from accidental damage or environmental degradation and that is rarely moved should not need to be tested unless a risk assessment shows otherwise.

2.0 Policy

It is the policy of Technological University Dublin (TU Dublin) to carry out the visual checking, inspection and testing, on a periodic basis, of portable electrical equipment as required by the Safety Health and Welfare (General Applications Regulations) 2007 and Safety Health and Welfare at Work Act 2005.

All staff have a responsibility to report any electrical faults they observe to their line manager immediately so that appropriate action can be taken.
3.0 Definitions

“portable equipment” means equipment, including hand-held portable equipment, which:

a) because of the manner in which it is to be used, requires to be moved while it is working,

b) is designed so that it can be moved while it is working, or

c) is moved from time to time between the periods during which it is working;

Typical examples as follows. A full risk assessment will identify all PAT equipment.

- **Sciences**– All portable laboratory equipment including weigh scales, experimental apparatus, mixers, lights, heaters etc.

- **Engineering** -All electrical hand-tools in the workshops. All electronics test equipment and experimental apparatus etc.

- **Kitchens** -All portable kitchen equipment including mixers etc.

*‘competent person’* as follows:

“For the purposes of the relevant statutory provisions, a person is deemed to be a competent person where, having regard to the task he or she is required to perform and taking account of the size or hazards (or both of them) of the undertaking or establishment in which he or she undertakes work, the person possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken.’

A competent person can carry out combined visual checking, inspection and testing as outlined in training. A Competent Person will have obtained a certificate of competence after attending an approved course for the Visual Checking, Inspection and Testing of Portable Equipment. They will be certified competent by the training company for a set period of time. Certification issued by training company will determine when training will need to be re-certified.

Once trained, the competent person (TU Dublin employee) is designated by the employer (TU Dublin) to act on their behalf in fulfilling legal obligations and therefore will not suffer any disadvantage through the discharge of such duties.

For the purposes of this policy, competency for portable electrical appliance testing (PAT – the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use) will be engaged by external experts and facilitated by in-house employees or carried out by in-house trained employees.

“Residual current device” means an electro mechanical switching device intended to disconnect a circuit when the residual current attains a stated value under specific conditions.

*Deterioration* All work equipment is subject to varying levels of deterioration. Deterioration could be due to a range of factors, including corrosion, chemical attack, erosion, friction, fatigue, impact damage etc., which in turn can lead to erratic machine behaviour, structural failure, loss of containment of dangerous substances, failure to maintain adequate protection around dangerous part.
4.0 Scope
This policy applies to all portable electrical equipment as per the legislation which is exposed to conditions likely to cause deterioration and consequent danger, and is supplied at a voltage in excess of 125 volts AC. It is implemented as appropriate at each campus.

5.0 Responsibilities
Responsibilities for Directors/Deans and Heads of School/Function:
- To ensure a risk assessment is carried out on all portable electrical equipment to determine what is to be tested by a competent person;
- To ensure that all portable electrical equipment within their School/ Function is maintained in a manner fit for safe use;
- To maintain records in accordance with legislation and guidance;
- To oversee the coordination and designation of internal or external competent persons;
- To ensure that any contractors/service providers employed are made aware that they themselves are responsible for the electrical safety of their equipment including the requirement to inspect and test their electrical equipment. The University reserves the right to prohibit the use of any electrical equipment brought onto site by contractors/ visitors/ others.

Responsibilities of Others:
Where equipment is sourced from a lease contract that falls under the definition above, the company providing the equipment is responsible for that equipment and associated testing and inspection.

The Estates Office will ensure that circuits supplying portable electrical equipment or sockets intended to supply portable electrical equipment is protected by one or more Residual Current Devices or RCDs having a tripping current not exceeding 30 milliamperes to provide necessary protection to prevent danger to any person coming into contact with any live part of the circuit.

Employees should visually check portable electrically operated equipment before they use it. They should visually check for:
- Obvious damage on the equipment enclosures and insulation
- Obvious damage to the cable or lead supplying the equipment or evidence of any temporary repairs such as taped connections
- Loose connections or loose cabling
- Damage to the plug tops or sockets being used
- Scorch or burn marks on the equipment, leads or plug tops.

Employees discovering a defect in portable electrical equipment during these checks should take the item out of use and report the defect to their line manager.

Personal equipment (laptops and phone chargers) used by staff/students is the responsibility of the student/staff member. Where personal equipment is subject to portable appliance testing, it is the responsibility of the student/staff member to provide evidence of testing.
6.0 Procedure for Inspection and Testing

A portable electrical appliance risk assessment will determine what needs to be checked and inspected. Guidance is available in the Frequently Asked Questions section. The identified equipment for testing will be referred to as PAT (Portable Appliance Test) equipment.

Each tested item must be labelled with the date of the latest test and the initials of the tester. Each School/Function will develop their own inventory.

Any item failing its required test must be withdrawn from service immediately, labelled and not re-used until the fault(s) have been rectified and it has been re-tested and successfully passed the PAT tests.

All PAT equipment should have an INSPECTION (Black), PASS (Green) or FAIL (Red) label fixed to it after each inspection or test. Labels will be provided by the competent person.

Guidance on the frequency of testing is available in the FAQ section.

7.0 Communication and Implementation

Heads of School/ Function shall ensure all employees, contractors and students are aware of this policy and that it is implement in the areas under their control.

8.0 Review and Audit

This policy will be reviewed annually and revised as required. The Health and Safety Office will conduct audits of the process. The PAT inventory should be made available for inspection by internal/ external auditors.

FREQUENTLY ASKED QUESTIONS

WHAT IS PORTABLE APPLIANCE TESTING (PAT)?

Portable appliance testing (PAT) is the term used to describe the examination (inspection) of electrical appliances and equipment, which is exposed to conditions likely to cause deterioration and consequent danger and is supplied at a voltage in excess of 125 volts AC.

WHAT APPLIANCES AND EQUIPMENT NEEDS TO BE CHECKED AND INSPECTED?

Electrical appliances and equipment which is exposed to conditions likely to cause deterioration and consequent danger and is supplied at a voltage in excess of 125 volts AC. This equipment is referred to as PAT Equipment.

A risk assessment will determine what needs to be checked and inspected.

Factors to consider when making the risk assessment include:

- Type of equipment – the vast majority of which will be either earthed equipment or double insulated equipment;
- Whether it is hand-held or not. Equipment that is held by hand or handled when switched on will present a greater degree of risk because, if it does develop a dangerous fault, the person holding it will almost certainly receive an electric shock;
■ Manufacturer’s recommendations;
■ Initial integrity and soundness of the equipment;
■ Age of the equipment;
■ Working environment in which the equipment is used (e.g. wet or dusty) or likelihood of mechanical damage;
■ Frequency of use and duty cycle of the equipment;
■ Foreseeable misuse of the equipment;
■ Effects of any modifications or repairs to the equipment;
■ Analysis of previous records of maintenance, formal visual inspection and combined inspection and testing.

EXAMPLES OF EQUIPMENT WITH SUGGESTED CHECKS AND INTERVALS (HEALTH SERVICE EXECUTIVE)
<table>
<thead>
<tr>
<th>Type of business</th>
<th>User checks</th>
<th>Formal visual inspection</th>
<th>Combined inspection and test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment hire</td>
<td>N/A</td>
<td>Before issue/after return</td>
<td>Before issue</td>
</tr>
<tr>
<td>Battery operated equipment (less than 40 V)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Extra low voltage (less than 50 V ac), telephone equipment, low-voltage desk lights</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110V equipment</td>
<td>Yes, weekly</td>
<td>Yes, monthly</td>
<td>Yes, before first use on site then 3-monthly</td>
</tr>
<tr>
<td>230V equipment</td>
<td>Yes, daily/every shift</td>
<td>Yes, weekly</td>
<td>Yes, before first use on site then 3-monthly</td>
</tr>
<tr>
<td>Fixed RCDs</td>
<td>Yes, daily/every shift</td>
<td>Yes, weekly</td>
<td>Yes, before first use on site then 3-monthly</td>
</tr>
<tr>
<td>Equipment site offices</td>
<td>Yes, monthly</td>
<td>Yes, 6-monthly</td>
<td>Yes, before first use on site then yearly</td>
</tr>
<tr>
<td>Heavy industrial/high risk of equipment damage (not construction)</td>
<td>Yes, daily</td>
<td>Yes, weekly</td>
<td>Yes, 6–12 months</td>
</tr>
<tr>
<td>Light industrial</td>
<td>Yes</td>
<td>Yes, before initial use then 6-monthly</td>
<td>Yes, 6–12 months</td>
</tr>
<tr>
<td>Office information technology rarely moved, eg desktop computers, photocopiers, fax machines</td>
<td>No</td>
<td>Yes, 2–4 years</td>
<td>No if double insulated, otherwise up to 5 years</td>
</tr>
<tr>
<td>Double insulated (Class II) equipment moved occasionally (not hand-held), eg fans, table lamps</td>
<td>No</td>
<td>2–4 years</td>
<td>No</td>
</tr>
<tr>
<td>Hand-held, double insulated (Class II) equipment, eg some floor cleaners, some kitchen equipment</td>
<td>Yes</td>
<td>Yes, 6 months – 1 year</td>
<td>No</td>
</tr>
<tr>
<td>Earthed (Class I) equipment, eg electric kettles, some floor cleaners</td>
<td>Yes</td>
<td>Yes, 6 months – 1 year</td>
<td>Yes, 1–2 years</td>
</tr>
<tr>
<td>Cables, leads and plugs connected to Class I equipment, extension leads and battery charging equipment</td>
<td>Yes</td>
<td>Yes, 8 months – 4 years depending on type of equipment it is connected to</td>
<td>Yes, 1–5 years depending on the equipment it is connected to</td>
</tr>
<tr>
<td>Type of Premises</td>
<td>Type of Equipment</td>
<td>User Checks</td>
<td>Class I</td>
</tr>
<tr>
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<td></td>
<td>Formal Visual Inspection</td>
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<td></td>
<td>Combined Inspection &amp; Test</td>
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<td>3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>1 Construction Sites</td>
<td>110V Equipment</td>
<td>S Weekly 1 Month</td>
<td>3 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M Weekly 1 Month</td>
<td>3 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P Weekly 1 Month</td>
<td>3 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H Weekly 1 Month</td>
<td>3 Months</td>
</tr>
<tr>
<td>2 Industrial including Commercial Kitchens</td>
<td></td>
<td>S Weekly None</td>
<td>24 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT Weekly None</td>
<td>24 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M Before Use 6 Months</td>
<td>12 Months</td>
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<tr>
<td></td>
<td></td>
<td>H Before Use 6 Months</td>
<td>12 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F 3 Months 12 Months</td>
<td>24 Months</td>
</tr>
<tr>
<td>3 Equipment used by the Public</td>
<td></td>
<td>S Weekly 1 Month</td>
<td>12 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT Weekly 1 Month</td>
<td>12 Months</td>
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<tr>
<td></td>
<td></td>
<td>M Weekly Weekly 6 Months</td>
<td>6 Months</td>
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<tr>
<td></td>
<td></td>
<td>P Weekly Weekly 6 Months</td>
<td>6 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H Before Use Weekly 6 Months</td>
<td>6 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F Weekly 12 Months</td>
<td>36 Months</td>
</tr>
<tr>
<td>4 Schools</td>
<td></td>
<td>S Weekly None</td>
<td>12 Months</td>
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<tr>
<td></td>
<td></td>
<td>IT Weekly None</td>
<td>12 Months</td>
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<td></td>
<td></td>
<td>M Weekly 6 Months</td>
<td>12 Months</td>
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<tr>
<td></td>
<td></td>
<td>P Weekly 6 Months</td>
<td>12 Months</td>
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<td></td>
<td>H Before Use 6 Months</td>
<td>12 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F Weekly 12 Months</td>
<td>36 Months</td>
</tr>
<tr>
<td>5 Hotels</td>
<td></td>
<td>S None 24 Months</td>
<td>60 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT None 24 Months</td>
<td>60 Months</td>
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<tr>
<td></td>
<td></td>
<td>M Before Use 12 Months</td>
<td>24 Months</td>
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<td>H Before Use 12 Months</td>
<td>24 Months</td>
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<td></td>
<td></td>
<td>F Weekly 24 Months</td>
<td>48 Months</td>
</tr>
<tr>
<td>6 Offices &amp; Shops</td>
<td></td>
<td>S None 24 Months</td>
<td>60 Months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT None 24 Months</td>
<td>60 Months</td>
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<td>M Weekly 12 Months</td>
<td>24 Months</td>
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<td>P Weekly 12 Months</td>
<td>24 Months</td>
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<td>H Before Use 12 Months</td>
<td>24 Months</td>
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<tr>
<td></td>
<td></td>
<td>F 3 Months 24 Months</td>
<td>48 Months</td>
</tr>
</tbody>
</table>

5 Stationary Equipment
6 IT Information Technology Equipment
M Movable Equipment
P Portable Equipment
H Hand-held Equipment
F Fixed Equipment

Notes:
1. Intervals between user checks, formal visual inspections and combined tests should be kept under review, particularly until patterns of failure or damage, if any, are determined.
2. It is not normally necessary to test new items of equipment as the manufacturer may have already tested them, although a user check may be required to identify transit damage.

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WHAT IS EXEMPT?

Equipment located in environments where it is safe from accidental damage or environmental degradation and that is rarely moved should not need to be tested unless a risk assessment shows otherwise.

DO I NEED TO TEST NEW EQUIPMENT

New equipment should be supplied in a safe condition and not require a formal portable appliance inspection or test. However, a simple visual check is recommended to verify the item is not damaged and safe for use. It will then be assessed to determine if future PAT tests are required.

WHO COMPLETES THE INSPECTIONS AND TESTS?

The person doing testing work needs to competent to do it. In many low-risk environments, a sensible (competent) member of staff can undertake visual inspections if they have enough knowledge and training. However, when undertaking combined inspection and testing, a greater level of knowledge and experience is needed, and the person will need:

- the right equipment to do the tests
- the ability to use this test equipment properly
- the ability to properly understand the test results

**Visual checks by all:**

Check for:

- Obvious damage on the equipment enclosures and insulation
- Obvious damage to the cable or lead supplying the equipment or evidence of any temporary repairs such as taped connections
- Loose connections or loose cabling
- Damage to the plug tops or sockets being used
- Scorch or burn marks on the equipment, leads or plug tops.

Employees discovering a defect in portable electrical equipment during these checks should take the item out of use and report the defect to their line manager.

**PAT Equipment to be tested by competent person**

Portable equipment which is exposed to conditions likely to cause deterioration and consequent danger, and is supplied at a voltage in excess of 125 volts AC, must undergoes a visual check by the user and be periodically inspected by a person competent to establish the ongoing safety of the electrical equipment.

HOW LONG DO WE KEEP RESULTS

The results of PAT inspections carried out must be recorded and kept available for the lifetime of the equipment.
DO I NEED TO TEST FIXED EQUIPMENT BEING MOVED TO GRANGEGORMAN CAMPUS?

Work equipment which is permanently installed at a location and being moved to Grangegorman and requires assembly, should not go into use until it has been inspected by a competent person to ensure that it has been properly installed and is safe for operation. Evidence of such inspections must be recorded and kept available for Health and Safety Authority inspection.

WHAT CHECKS NEED TO BE COMPLETED PRIOR AND POST RELOCATION OF FIXED AND PORTABLE EQUIPMENT?

A School/Function Technician/other designated by the Head of School/Function, shall complete the attached checklist pre relocation. Once the equipment has been delivered to new location, it will be installed by a competent person and checked that it is safe for operation. This process will be facilitated by the Project Manager.

IS ASSISTANCE AVAILABLE?

Attached

Guidance

Guidance and a template from the HSA.

Further assistance is available from the Health and Safety Office.

QUICK RECAP

✓ Portable electrical equipment must be maintained fit for safe use
✓ RCD’s fitted to circuits supplying portable equipment above 125 volts A.C.
✓ Portable equipment exposed to deterioration liable to result in danger and exceeding 125 volts A.C.
   ✓ visually checked by the user before use
   ✓ periodically inspected
   ✓ and where appropriate, tested and certified by a competent person
✓ A competent person tests and certifies portable equipment exposed to deterioration and exceeding 125 volts alternating current
### CHECKLIST OF FIXED AND PORTABLE ITEMS PRE RELOCATION

<table>
<thead>
<tr>
<th>Room location</th>
<th>Equipment</th>
<th>Asset Register No.</th>
<th>All Safety Guards in Place Y/N</th>
<th>Fully Operational Y/N</th>
<th>Comments</th>
<th>Destination Building/room Number/Disposal</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

Checked by:  
________________________________________

Verified by:  
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