

Safety Code of Practice

May 2018

Author	DBMAC Operations Manager	Intended target group	Principals, Business/Administration/Office Managers
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Fixed Wire Testing Policy



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1. POLICY STATEMENT AND INTRODUCTION

It is duty placed on The Dominic Barberi Multi Academy Company (DBMAC) to publish, issue and implement a fixed wire testing policy which outlines the procedures required to ensure suitable and adequate arrangements are in place for all fixed wiring testing.

The DBMAC recognises that there is an acceptable standard of electrical safety controlled by various legislation and regulations. It is the aim of the DBMAC, as an organisation committed to the health and safety, welfare of all person(s) using a DBMAC facility to ensure all standards are met relating to fixed wire testing.

The aim of this policy is to ensure the provision of safe electrical equipment, which is insulated, earthed or otherwise suitably protected, thereby ensuring the safety of the user. Appropriate precautions and control measures implemented of all fixed wire testing are identified, monitored and covered under a suitable testing and inspecting programme at each facility.

This Policy and any procedures outlined within this document will apply to all DBMAC buildings and all individuals employed and/or engaged by the DBMAC without exception.

2. EMPLOYER'S LEGAL DUTIES

The DBMAC has responsibility for compliance and there are a number of regulations and policies that relate to or affect the duty to manage all fixed wiring standards. The DBMAC commits to ensuring compliance within;

- The DBMAC Health and Safety Policy
- The Health and Safety at Work act 1974 (HSAWA)
- Provision and Use of Work Equipment Regulations 1998 (PUWER)
- The Electricity at Work Regulations 1989 (EAWR)
- Latest IEE Wiring Regulations

The following policy should also be read in conjunction with this policy

- DBMAC PAT Testing Policy

To comply with its legal duties, the DBMAC will:

- Ensure suitable and sufficient resources are available
- Nominate employees and others with responsibility for implementing this policy
- Ensure that nominated employees have appropriate resources to implement, manage and monitor all control measures identified related to fixed wire testing.
- Review this Policy every 3 years

3. AIMS

The DBMAC is committed to the safe operation of all the electrical systems for which it has a responsibility.

The DBMAC also recognises the need for testing of portable and fixed electrical equipment to help promote a safe working environment for all persons who come into contact with the DBMAC and its facilities.

The DBMAC regards electrical safety at work as also being a responsibility of every employee in order to safeguard themselves, their colleagues and other persons within the sphere of the DBMAC's interests.

The DBMAC proposes to continue to promote and develop a pro-active electrical safety regime by providing information, training and instruction for employees (where required), together with safe workplace procedures and rigorous maintenance routines for all electrical equipment.

The DBMAC reviews procedures for health and safety matters. Identification of hazards and elimination of risks shall also take account of the electrical systems.

4. WHAT IS FIXED WIRE TESTING?

Periodic Fixed Installation Testing (or Fixed Wire Testing) involves testing the electrical circuits and systems that distribute electricity around a building. It covers all the hard wiring in a building, whether that building is commercial, industrial or residential. All electrical circuits in a building that are fixed, such as lighting, socket outlets, supplies to air conditioning and other fixed plant need to be tested.

The results and extent of fixed testing should be recorded on an Electrical Installation Condition Report and provided to the person ordering the inspection. The report must include the extent of the work, limitations, details of defects and dangerous conditions, and schedules of inspections and test results.

Immediately dangerous conditions should be rectified or reported without delay to the relevant duty holder. Other recommendations and observations should be reported using a numbering system to indicate the severity of each observation.

Insulated explained

A Class II or double insulated electrical appliance is one which has been designed in such a way that it does not require a safety connection to electrical earth (ground).

Earthed explained

Ground or earth is the reference point in an electrical circuit from which voltages are measured, a common return path for electric current, or a direct physical connection to the Earth. Electrical circuits may be connected to ground (earth) for several reasons

5. RESPONSIBILITIES

The DBMAC understands the risks associated with not having control measures in place. The breakdown of responsibilities below allows for appropriate controls measures.

Employer means – DBMAC Directors and Governors

Duty Holder means – Principal, any acting head of school or most senior leadership position

Responsible Person(s) means – Operations Manager, Business Manager or Administration Manager for the specific site or School

5.1 The responsibility of the employer is to:

- Follow all legal duties outlined by the HSE and all control measures related to fixed wire testing and safety control.

- Ensure an appropriate policy is set out to assist duty holders with compliance and overall management control of electrical safety.
- Ensure the appropriate funds are in place to manage/control/minimise risks associated to any DBMAC facility or building.
- Provide suitable training and support to duty holders and key staff responsible for managing effectively all aspects of fixed wire testing and electrical safety.
- Allocate any provisions for electrical safety training / awareness sessions for any/all staff at any facility.

5.2 The responsibility of the duty holder is to:

- Have overall responsibility and implement an effective management of fixed wire testing for the DBMAC buildings/facility under their control or responsibility. The duty holder is normally the Principal unless otherwise clearly stated and documented.
- Ensure compliance with this policy, legislation and the linked policies. (such as, PAT testing policy)
- Appoint a responsible person (if required or necessary) to manage the day to day activity for fixed wire testing.
- Ensure up to date fixed wire testing (that are relevant to electrical safety) risk assessments are in place that highlight any risks with any installations, testing processes to ensure appropriate actions and monitoring is in place.
- Ensure that all appropriate personnel are familiar with the contents of the fixed wire testing policy insofar as it is relevant to their roles and responsibilities.

5.3 The responsibility of the responsible person is to:

- Ensure appropriate actions are taken to reduce or mitigate any risks identified.
- Ensure there is a suitable plan in place to manage, monitor and control multiple consumer units testing which covers the processes, safety and is carried out by minimising disruption.
- Ensure suitable and accurate records are in place for any testing results paperwork and available for any inspections or Electrician's carrying out day to day repairs
- Accurately record any repairs or maintenance that directly affects any power distribution which includes remedial works.
- Undertake any fixed wire testing risk assessments relating to the surroundings, safety measures. (see point 7.2 below)
- Action immediately any day to day risks related to electrical safety
- Issue all relevant paperwork relating to asbestos records to anyone undertaking fixed wire testing or electrical remedial work, a signed register is complete and any relevant asbestos is detailed in a risk assessment.

6. SAFETY

Electrical safety is one of the most important factors within building and facilities management, the risks of serious injuries or incidents are high if failure to upkeep systems and services. The immediate response to identifying and rectifying localised risks within a buildings and facilities (such as damaged switches or exposed wiring) can often prevent further issues or disruption. But ultimately reduce the risks of a serious injury or incident.

Persons undertaking work on the systems must be capable of carrying out the duties assigned to them in a safe manner, without risk to others. With respect to these duties, they must have:

- Adequate knowledge of the technicalities of electricity
- Sufficient experience of similar work on electrical systems;
- Detailed knowledge of the equipment to be worked on;

- An understanding of the hazards which can arise during the work and the precautions which need to be taken;
- The ability to recognise at all times whether it is safe for work to continue.

Each of these requirements are equally important and should be carefully analysed when persons are to be appointed to carry out duties under the safety procedures.

It is the duty holder and/or the responsible person(s) role to ensure all of the above is checked before any employee or contractor undertakes work relating to fixed wire testing.

7. TESTING + INSPECTIONS

Failure of insulation could result in the user receiving an electric shock with potentially fatal results. Periodic inspection and testing are the only reliable way of detecting such faults, and should be carried out to back up an inspection regime. Occasions when testing is likely to be justified are:

- Whenever there is reason to suppose the equipment may be defective, (but this cannot be confirmed by visual inspection);
- After any repair, modification or similar work;
- At periods appropriate to the equipment, the manner and frequency of use and the environment. Fixed electrical equipment, including wiring, etc. will be tested at least once every 5 years.

7.1 Before testing

Consideration and planning must be given for all testing of services that may affect fire alarms, intruder alarms, ICT services, servers and any services that may require continuous power.

The following list of services can be affected by the isolation of local electrical circuits, distribution boards, or the building main electrical supply. (Additional information available in appendix 1)

Intruder alarms	Mechanical services control systems
Loop alarms for equipment protection	Fume extract systems
CCTV security cameras and recorders	Lift installations and associated control equipment
Security screens	Data network communications racks
Emergency escape doors	Fire alarm systems
Door access systems	Emergency escape lighting
Mechanical services plant	User’s equipment

7.2 Risk assessments

Testing any individual consumer unit in any building or location will come with many different challenges and potential risks. Although it’s not practical to do a risk assessment for every individual consumer units or testing point, the need to have covered many potential hazards/measures is essential to reducing potential accidents or incidents and reducing risks.

Below are some of the essential points you should consider in drafting a specific risk assessment for a DBMAC facility or building prior to any fixed wire testing takes place.

- Slips/trips
- Working in confined spaces
- Working spaces are clear from obstructions or obstacles
- Appropriate lighting
- Adequate space to test safely
- Emergencies
- Access arrangements and lone working
- Notifications to staff/visitors/students
- Signage
- Safety equipment

7.3 Warning signage when testing

The contractor shall be responsible for ensuring that adequate warning notices are displayed at each entry point, confirming the status of each site area or consumer unit and prohibiting when appropriate unauthorised personnel from entering.

Suitable signage must be in place where any exposed wires, circuits or unattended consumer units are left during testing and suitable lock off kits should be used.

7.4 Carrying out testing and inspecting

Prior to carrying out any electrical isolation the contractor shall notify all parties working within an area or building.

The contractor shall ensure all personnel have been contacted and are aware of the intended isolation of electrical supplies. If, after giving notification, the contractor has concerns that the appropriate personnel have not responded to the notification of the intended electrical supply isolation, the contractor shall advise the duty holder or responsible persons before proceeding further.

In every case the contractor shall inspect and test all circuits and make all reasonable attempts to identify the full extent of the circuit. Circuits that remain unknown shall be identified as such and as many details as are known shall be recorded on the test sheets.

In addition, the contractor shall make all reasonable attempts to identify causes of circuit faults found, including disconnection of fixed equipment or luminaires as necessary. It is not practical to inspect every joint and termination in an electrical installation. However, the contractor shall inspect every termination within distribution systems and distribution boards to ensure that the connections of the conductors are properly installed and secure.

A sample inspection shall be made of all accessible parts of the electrical installation. The contractor shall make allowance to inspect at least 10% of the termination points per power circuit and at least one luminaire and one switch per lighting circuit. At least one socket outlet in every room should be inspected, regardless of room size.

Each consumer unit should also have a schedule attached showing you all the circuit details. It is important to also keep a central record of all schedules within the facility as a back up

All consumer units tested should be labelled with;

- the last testing date
- who carried out the test
- the re testing date

7.5 In house inspections

A regular inspection of fixed equipment (such as sockets and switches) is recommended to minimise risk and swiftly rectified any damaged equipment caused by neglect, miss use or wear and tear. This is seen as a proactive approach to reduce the potential risk to students, staff, visitors or contractors of serious injury or incident.

8. RECORD KEEPING

In order to ensure good control measures are in place, each DBMAC facility/building should have detailed monitoring and records that are stored accurately. This includes;

- Detailed locations of systems around with locations of all consumer units within each building/facility
- The last known testing dates and re inspection dates
- Accurate schedules for each consumer unit
- Any appropriate remedial works documentation and sign off sheets
- Service visit records and amendments
- Certification or sign off documents for new installations or upgrades

The duty holder, responsible person and any key staff involved in the frequency checks should have full access to all electrical records.

As per each DBMAC building/facility, it is vitally important that records are maintained.

9. TRAINING

Any duty holders or responsible staff involved in the management of fixed wire testing or any electrical safety should be confident and competent in their ability/skills or knowledge to effectively manage, oversee and control all electrical management aspects.

The DBMAC commits to ensuring suitable resources and training is available to support the effective management of electrical services.

The following areas of training should be considered if further development is required

- Basic electrical awareness
- Health and Safety awareness in electrical services
- Safe isolation
- Electrical site or office awareness
- Risk management
- PAT testing

Records of all training for staff should be logged within the electrical folder, health and safety training records and stored electronically.

The Directors and Governors reserve the right to view or request any detail/content or reports relating to electrical safety for any DBMAC building/facility in order to monitor compliance or safety measures.

Directors or Governors must provide at a minimum of 14 days' notice for duty holders or responsible person(s) to gather information.

Approved by DBMAC Board

A handwritten signature in black ink that reads "David Forster". The signature is written in a cursive, slightly slanted style.

Signed____

__ Date_17th May 2018

Name __David Forster, Chair of Directors _____

Date for review: April 2021

Appendix 1: Services affected by power outage

Intruder Alarms - Properly installed and maintained alarms have a battery backup. However, as it is not uncommon for these batteries to be old and in need of replacement, the system operator should be informed of the planned power outage.

Loop Alarms - Most systems have battery backup, but there are some without or may have defective batteries, there is a need therefore to inform the system operator of the power outage.

CCTV Security Cameras - The software associated with CCTV systems requires a controlled power down to protect the software and the equipment. A reconfigure or set up check will possibly be required once power is reinstated.

Security Screens – As these generally do not have any battery backup, the system users need to be aware that the system will not be operational during the power outage.

Emergency Escape Doors - buildings that have doors that are electrically held open and which are released in an emergency, or may be part of the building's access control. Some doors have battery backup, but the duration that they will remain operational is unknown. The system users therefore need to be aware that the door holders may not be fully operational during the power outage.

Door Access Systems - Door access systems may or may not have battery backup. The system users need to be aware that the access system may not be fully operational during the power outage.

Mechanical Services Plant – As isolation of the electrical supplies to plant can cause problems if not shut down in a controlled manner, plant operators and maintenance services need to be informed of the proposed power outage.

Mechanical Services Control Systems - Control systems often use software requiring a battery back-up to maintain power, but this may not be sufficient to cover the period during which the electric supply is switched off. To reduce any difficulty in re-starting such systems after a prolonged power outage, the plant operators need to be informed prior to isolating the electricity supply, should any preventative measures need to be taken.

Fume Extract Fans - The isolation of fume extract fans may cause a hazard should fumes build up whilst the extract system is not running. The system operator needs to be advised as early as possible so the situation can be addressed and any hazardous substances can be removed whilst the fume extract system is not operational.

Lift Installations and Associated Control Equipment - Where the electrical supply to a lift installation is likely to be affected by a power shutdown, the lift(s) must be brought to a standstill (usually on the ground floor) before being switched off and the system shut down.

Data Networks - Loss of power to data hubs or servers will shut down the local computer network served by these, and may also affect users outside the area that has been electrical isolated. IT departments must be made aware of any likely power interruptions at an early stage, in order to evaluate the situation and take the appropriate action.

Fire Alarm Systems - Fire alarm systems should provide adequate power back up from their own batteries to run the system for some considerable period. Security Services should be informed of any planned shutdown that may affect the electrical supply to a fire alarm system.

Emergency Escape Lighting - Isolating the electrical supply to the emergency escape lighting initially does not present an immediate problem. However, should the batteries fully discharge (and where the emergency escape lighting is essential to the safe occupation of a building) the building should not be re-occupied until the batteries have been sufficiently recharged.

User's Equipment - Within departments, users may have specialised equipment such as constant temperature cabinets, refrigerators and freezers etc. that will be affected by the loss of electricity. There may also be research projects that need a programmed shutdown before the electricity may be switched off. Such users must be given adequate notice and be made aware of any equipment within their area of control