

Vehicle, Plant & Equipment (PUWER) Standard

(SHEMS-STD-GR-057)

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1 Introduction

The purpose of this Standard is to define the management process that applies to any work activity that utilises vehicles, plant and work equipment. The Standard also determines how Unitas selects, operates, maintains and inspects work equipment.

The Standard determines how Unitas monitors, assesses, controls and reviews the competencies of mobile plant & equipment operators.

This Standard defines the management requirements to ensure the safety and health of personnel using vehicles, plant and work equipment and others who may be affected by their operation.

This standard covers a range of vehicles and items of plant and equipment commonly used across Unitas.

Director/Senior managers and line managers must ensure that this Standard is adopted in all areas under their control. They should also ensure that this process is cascaded to employees and contractors and that it is complied with along with any relevant Unitas Minimum Standards.

Director/Senior managers must ensure that vehicles, plant and work equipment specification will be consistent with CE marking, manufacturer's instructions, health and safety legislation, associated guidance and company requirements.

2 Scope

The scope of the SHEMS covers all persons, workplaces and Operations in the Unitas business.

Exceptions will be documented through a SHEMS Appendix B process ([SHEMS-FOR-GR-999](#)), authorised by the Operations Director responsible for coordinating SHE.

Unitas SHEMS manual ([SHEMS-STD-GR-003](#)) provides guidance and signposting for the compliance, implementation, monitoring, audit and review of our systems, and demonstrating continual improvement.

3 Unitas Requirements

3.1 Selection of Vehicles, Plant & Equipment

It is a requirement that all requisitions for vehicles and work equipment shall be assessed for safety and health hazards and environmental aspects to a level that is suitable to identify any reasonably foreseeable risks or impacts when used at work under normal operating conditions and any work equipment procured or supplied shall include such controls so as to minimise the risk/impact to as low as reasonably practicable.

Line management when determining the selection of plant, vehicles, equipment, machinery, devices and tools are suitable for the task shall consider:

- The task for which the work equipment is to be used
- Type and design of work equipment required
- Effect of new equipment on existing operations
- Required safety mechanisms
- Ergonomic considerations
- Training needs, or instructions requirements
- Inspection needs, in terms of competent persons etc.

Where necessary, the SHE Manager or Advisors or other specialists will advise line management on the selection, design, suitability and operability of work equipment.

3.2 Vehicles, plant and work equipment suppliers

The selection process of vehicles, plant and work equipment shall ensure that all items are obtained from an approved source following Unitas procurement processes.

All work equipment supplied must comply relevant EU and UK standards, including CE marking. Organisations supplying work equipment have a duty to consult and advise the purchaser on the operational, maintenance and inspection regimes of the work equipment. Equipment must be assessed to ensure compliance with the UK PUWER regulations, which require additional controls to CE Marking e.g guarding.

Upon receipt of vehicles, plant and work equipment, all necessary checks must be undertaken to ensure that the work equipment is in good working order, appropriate, compliant to UK regulations and suitable for the task intended. Refer to 3.3 for inspection and examination requirements.

3.2.1 Hand tools and equipment

All hand tools, including powered hand tools, shall be procured from manufacturers, suppliers or hirers that are Unitas approved who will provide all necessary approved marks, documentation, values, records and certification.

Levels of noise, vibration and dust generation etc., are required to be reduced to their lowest practical level and controlled by design at source.

3.3 Vehicles, plant and work equipment Inspection/Examination

All vehicles and items of plant and work equipment are inspected/examined by a competent organisation and/or person, to identify any faults or defects, which could lead to accident, incident, injury and/or equipment failure and in compliance with legal or industry standard requirements.

Where vehicles, plant and work equipment is subjected to deterioration, stresses and rigours by the nature of works being performed, they will be subjected to more frequent recorded inspections, e.g.

- Operational/use safety
- Excessive Vibration
- Corrosive activities
- Induced Stress-Strain
- Fatigue
- Wear
- Breakage
- Specific Site Conditions

All records of inspection/examination shall be made using the prescribed documentation, be legible and available for review. They are to be maintained on site or at the area office and be available for the duration of the works/contract and for a minimum 3 years for VOSA and liability requirements. Specific portable appliance testing frequency requirements are detailed within Appendix 1 of this Standard.

3.4 Vehicles, plant and work equipment storage

All work equipment shall be stored safely, securely and in accordance with manufacturers/suppliers recommendations, to prevent damage and deterioration of equipment.

3.5 Vehicles, plant and work equipment maintenance

All work equipment is maintained in conjunction with the manufacturers/suppliers recommendations. In addition, all service schedules/programmes will be compliant with respective legislative maintenance requirements. Only authorised and competent personnel shall undertake repair or complete non routine maintenance.

3.6 Installation of static plant and equipment

Where installation of static plant and equipment involves the incorporation of more than one piece of equipment to comprise a process, that process design, conformity, approval and CE marking requirements are the same as if a single piece of equipment and must be provided before any such process is put to use at work including technical O + M Manual.

3.7 Operators Licences

Goods vehicle operator licensing is a system of licensing aimed at ensuring the safe and proper use of goods vehicles and the protection of the environment around operating centres (i.e. the place where an operator normally keeps their vehicles when they are not being used).

Unitas operate commercial vehicles throughout the UK that weigh over 3.5 tonnes when loaded to their maximum permitted capacity, these vehicles require a licence. Unitas as the holder of a licence is the 'operator'. A licence will authorise an operator to use up to a maximum number of motor vehicles and trailers, and to use a specific operating centre or centres.

An operator must hold a licence in each Traffic Area where they have an operating centre or centres. Licences often authorise the use of more than one operating centre.

Licence applications are made to Traffic Commissioners who are individuals appointed by the Secretary of State for Transport. They act as independent administrative tribunals under the supervision of the Council of Tribunals. There are eight Traffic Areas and seven Traffic Commissioners.

Traffic Commissionaires have powers to impose severe penalties on operators and so it is important to maintain compliance with licence requirements.

The suitability of a proposed operating centre is just one of a number of matters which a Traffic Commissioner must consider before granting an application. Other matters include an applicant's fitness to hold a licence; the financial resources available for, and arrangements in place, to maintain vehicles; and, where appropriate, professional competence.

Specialist advice is available within Unitas regarding the requirements and steps that need to be taken when assessing the requirements of commercial vehicle licences.

3.8 Conspicuity marking for Vehicles and Plant operating on the Highway

Vehicles and plant operating (working) on the highway must comply with the following conspicuity marking requirements:

- All vehicles operating (working) on the highway (single lane or above) such as highway maintenance or refuse collection vehicles etc. shall have conspicuity markings fitted to both the rear and sides of the vehicle/plant
- Conspicuity tape to the sides of the vehicle shall be YELLOW retro reflective microprismatic material (e.g. 3M 'Diamond Grade' or equivalent) and conform to Class 1.
- Alternative colours may be considered for the side of the vehicle, but only at the discretion of the Unitas SHE Department

Conspicuity tape to the rear of the vehicle shall incorporate 'chevron markings' comprising alternate strips of fluorescent RED retro reflective microprismatic material (3M 'Diamond Grade' or equivalent) conforming to Class 1, and fluorescent YELLOW non-retro reflective material, both no less than 150mm width each, inclined at 45-60 degrees in relation to the top centre point of the vehicle.

Where space is limited on the rear of the vehicle, single strips of fluorescent RED retro reflective microprismatic material (3M 'Diamond Grade' or equivalent) conforming to Class 1, no less than 150mm in width, are permitted (150mm band width applies to all vehicles and plant after January 2007 registration)

RED retro reflective tape should also be applied to all rear facing edges of open doors, guardrails and equipment lockers.

The above are minimum requirements and Unitas businesses that work on the highway may supplement these to meet local business unit or client requirements using the SHEMS Appendix B process.

4 Commonly Used Plant & Equipment

4.1 Compressed Air Systems

Legislation requires a written scheme, arranged by the owner, for the inspection and examination of air receivers.

All air receivers must be examined and a written scheme of examination must be prepared by a competent person. Pressure systems, where permanent, are to be treated as air receivers.

Air receivers, including those integrally fitted to compressors must be marked with their safe working pressure and a distinguishing number. They must also be fitted with a safety valve, pressure gauge and drain cock.

Mobile compressors should be set up level with all guards and covers correctly fitted. Periodic checks should be made by a competent person that lubrication, coolant and fuel levels are adequate.

Hoses must be maintained in good order and should be inspected before use. Hose whip checks must be used on all hoses greater than 15mm diameter or when required by risk assessment.

4.2 Mobile Plant (including Earth Moving Equipment)

Mobile Plant covers a wide range of vehicles including telehandlers, 360° excavators, fork lifts, ground maintenance equipment, highways maintenance equipment and compaction equipment. This section covers general issues.

Plant and vehicle operating areas should, where practicable, be segregated from pedestrian routes to provide safe work places. Signs on restrictions of use or other directions should be provided.

Mobile plant must be checked prior to use in accordance with manufacturer's instructions by a competent person (normally the operator), defects should be recorded in the defect sheet. Any defects affecting safe operation will require that machine to be withdrawn from use. A record of weekly inspection must be recorded in the Project SHE Register / Premises Management Register or when used remotely, held with the contract records.

All mobile plant must be fitted with an amber warning beacon.

Operators must have 360° field of vision from the operating position sufficient to see an object 1m high, 1m from the machine. This can be achieved by use of mirrors, Fresnel lenses or CCTV. Specific mandatory requirements for telehandlers are contained in the Unitas Divisional Minimum Standards- Telehandlers. Operators must hold the relevant Construction Plant Competence Scheme (CPCS) or Build UK approved scheme card and endorsement for the category of plant they are operating.

Only competent personnel who hold the relevant CPCS category or equivalent and are familiar with the type of machine planned to be used can be authorised to operate plant. Authorisation shall be recorded on (SHEMS-FOR-GR-146) and is site / premises specific and not transferable.

Evidence must be obtained of familiarisation training in the operation and controls for the specific machine and its attachments and should be detailed in the operators CPCS Log Book or equivalent.

Manufacturers operator manuals must be readily available to the operator and sufficient time allocated for familiarisation.

Managers must review the operator's CPCS or equivalent card and log book before authorisation. Refer to the Training and Competency Standard for further information.

Ride on mobile plant must be fitted with a roll over protection (ROP) cab or a rollover bar and a seat belt. All seat belts must be worn and other safety devices correctly used in accordance with the manufacturer's instructions.

Demolition plant must be fitted with Falling Object Protection (FOP). This may also apply to other plant not

involved in demolition and should be identified through risk assessment.

Ride on mobile plant when reasonably practicable, shall carry an appropriate fire extinguisher. Plant containing burners e.g. pavers, bitumen boilers or lining equipment must carry suitable fire extinguishers.

Mobile plant must not be left running, or with the key in the ignition when unattended. The plant must be secured in a safe position when parked.

4.2.1 Excavators Used as Lifting Equipment

When excavators are used to handle objects and materials that are not contained in the bucket or grab the excavator becomes a piece of lifting equipment and the Management of Lifting Operations Standard applies.

4.2.2 Quick Hitches

Quick hitches fitted to excavators and other earthmoving plant allow buckets and other attachments to be attached and detached rapidly.

The following posters and safety cards must be displayed and issued on sites where quick hitches are being used:

- Safety poster Ten Steps for Contractors
- Safety card Supervisors Responsibilities
- Safety card for operators Ten Points You Should Know

Further information is provided in the Unitas Minimum Standard [Excavator Quick Hitches](#).

Additional guidance can be obtained from the CPA Best Practice Guidance Safe Use of Quick Hitches at www.cpa.uk.net.

4.3 Piling Equipment

Piling operations are high-risk activities that combine the hazards of lifting operations with those of earth moving operations. Piling rigs and associated equipment must be selected based on design requirements and proposed work methods e.g. installation/extraction etc. Piling mats for piling rig operations are temporary works and must be managed in accordance with the Temporary Works Standard ([SHEMS-STD-GR-048](#)).

All piling rigs must be thoroughly examined before use, and as a minimum, at 12 monthly intervals and records maintained with the equipment. Regular maintenance and statutory inspections must be carried out and records maintained.

When a second line is used to handle objects the piling rig and all equipment used as lifting accessories is subject to the same statutory requirements as lifting equipment.

4.4 Electrical Equipment

An Electrical Duty Holder must be appointed in writing. The Electrical Duty Holder will be required to comply with the content of their letter of appointment.

The design and installation of electrical systems must be undertaken by a competent person. All installations, temporary or permanent must comply with current regulations.

New installations or installations that have been altered or added to must be inspected and tested by a competent electrician prior to being put into use.

A completed certificate of test must be issued and retained on site within the Project SHE Register / Premises Management Register.

Construction site distribution cables must be effectively earthed and where exposed to possible damage must be protected with a metallic sheath. All 110v cables must be yellow to ensure positive identification.

Earth monitoring and/or residual current operated circuit breakers must be fitted to all moveable equipment on construction sites external to offices.

All electrical systems must be properly maintained therefore inspection, test and maintenance must be undertaken on a planned basis. Refer also to Premises Management Standard ([SHEMS-STD-GR-019](#)).

4.4.1 Periodic Inspection and Test

Fixed wiring and electrical systems within premises must be inspected every 5 years.

Electrical equipment in premises must be inspected and tested in accordance with a written scheme. Refer to Premises Management Standard.

Distribution systems on construction sites must be inspected and tested at not more than three monthly intervals. Maintenance must be in accordance with manufacturer's instructions.

Portable electrical equipment on construction sites must be inspected, tested and maintained. Depending on usage and site conditions this should be within 3 months of first use on site then not exceeding 3 months thereafter. (Refer to Appendix 1).

4.5 Portable Tools

Portable tools include the following:

- Hand tools
- Power Tools
- Cartridge operated tools
- Electrically operated tools
- Petrol engine tools

Portable tools must only be procured from suppliers who are able to demonstrate that the supplied tools meet the requirements of current legislation and standards and that hired tools are adequately maintained. Operating instructions, with the exception of simple hand tools, must be supplied with all portable tools procured, must be readily available and must be brought to the notice of the user.

Records of portable electrical equipment and their test frequency should be recorded on Electrical Equipment PAT Register [SHEMS-FOR-GR-138](#).

4.5.1 Hand Tools

Hand tools must be selected to suit the work, be appropriate to the task and be maintained in a serviceable condition. Consideration must be given to where the tools will be used, e.g. avoiding sparks in flammable atmospheres. Cutting edges must be sharp, handles free from cracks and splinters, chisel heads and hammers must be free of burrs or splits.

4.5.2 Power Tools

Power tools must be selected by risk assessment, giving due regard to hazards associated with the power source, e.g.:

- Compressed air
- Explosive cartridges
- Electricity
- High-pressure hydraulics
- Internal combustion engine e.g. exhaust fumes and spark generation.

Additional hazards of heat, noise, vibration and high velocity debris may arise during operation. Health surveillance may be required where personnel are exposed to dust, noise and vibration.

Refer to the Occupational Health Standard and the Hand Arm Vibration (HAVS) Standard.

4.5.3 Cartridge Operated Tools

Cartridge operated tools must only be used by competent personnel who can provide evidence of suitable training. Cartridges are colour coded therefore personnel must not suffer from defective colour vision. Cartridges and cartridge tools must not be used in explosive atmospheres and when not in use they must be

stored in a separate secure location. Cartridge tools should be overhauled at least annually and records maintained. Hazards associated with the use of cartridge operated tools include:

- Excessive noise levels
- Ricochet
- Punching through material
- Cartridge tools must not be used in explosive atmospheres.

4.5.4 Electrically Operated Tools

Electrically operated tools. Preference should be given to battery operated tools. Where this is not practicable they must be earthed or double insulated and the power source where reasonably practicable restricted to 110volts.

Where tools are rated above 110volts they are to be subject to further risk assessment and controls e.g. use of electrical breakers and armoured cables.

Portable electrical tools and battery chargers should be inspected before use and subjected to portable appliance testing not exceeding 3 months.

Evidence of inspection must be readily available. The use of tags fixed to the item of equipment recording the last inspection is recommended. Records of inspection should be entered in the Project SHE Register / Premises Management Register ([SHEMS-FOR-GR-119](#)).

4.5.5 Hydraulic Tools

Hydraulic tools must be used and maintained in accordance with the manufacturer's instructions. Pressure must be released from the system before attempting to disconnect hoses.

4.5.6 Pneumatic Tools

Pneumatic tools are supplied with compressed air via hoses from a compressor. Couplers must be fully locked and a hose whip check fitted between the hose and the tool to prevent the hose whipping should the coupling fail. Pressure must be released from the system before attempting to disconnect hoses.

The compressor will be subject to inspection in accordance with the written scheme.

Compressors should be set up level with all guards and covers correctly fitted. Periodic checks should be made by a competent person that lubrication, coolant and fuel levels are adequate.

Pneumatic tools generate vibration which is transmitted to the user. Vibration dampened tools must be selected and operators subjected to health surveillance and monitoring.

4.5.7 Petrol and Diesel Engine Tools

Petrol and diesel engine tools must only be used in well ventilated areas because of the hazard of toxic exhaust gases.

Refuelling must be in a dedicated area. Drip trays must be used to contain any spillage. Spill kits must be readily available on site and personnel must be trained in clearing spills on site

4.5.8 Bench Top-Cut Saws

Bench top-cut saws should be securely fixed to a suitable work bench.

4.5.9 Chainsaws

The use of chainsaws shall be limited to arboriculture activities (the trimming or removal of trees and shrubs). Prior to management authorising work to commence, operators of chain saws shall in accordance with HSE guidance, demonstrate that they have received appropriate training and obtained a relevant certificate of competence or national competence award. The certificate or award shall be issued by either a Lantra or City and Guilds NPTC approved training provider. Further guidance on chainsaws is provided within HSE

guidance Chainsaws at Work INDG317(rev2) published 01/13.

4.5.10 Brushcutters and Strimmers

Individuals operating brushcutters or strimmers e.g. during grounds or highways verge maintenance operations, shall have received appropriate training and be in possession of a City and Guilds NPTC level 2 Certificate of competence in Brushcutting Operations or Lantra equivalent.

4.5.11 Abrasive Wheels

Individuals whose duties will include the mounting of abrasive wheels shall demonstrate that they have received appropriate training and have obtained a certificate of training in accordance with the schedule contained within HSE guidance Safety in the use of Abrasive Wheels. NB HSE advise that organisations usually issue certificates of attendance of this training and not competence.

4.6 Powered Access Equipment

The Management of Lifting Operations Standard ([SHEMS-STD-GR-045](#)) must be followed when using powered access equipment e.g. Mobile Elevated Work Platforms, Mast Climbing Work Platforms etc.

The Temporary Works Standard ([SHEMS-STD-GR-048](#)) must be followed when considering ground conditions for Powered Access Equipment.

5 Vehicle, Plant & Work Equipment competence

5.1 Persons Operating Mobile Plant & Equipment that may access the Public Highway

All persons who operate mobile plant and equipment that will or is likely to travel on the public highway must hold a full UK issued driving licence in the appropriate category, age restrictions are listed below:

UK Driving Licence Age Restrictions

Category	Minimum Age
Vehicles up to 3500kg Gross Vehicle Weight	17
Vehicles 3500 kg to 7500kg including trailer up to 750 kg	18
Vehicles 3500 kg to 7500kg with trailer over 750kg	21
All vehicles over 7500kg	21
Agricultural tractor	16
Road roller	21
Tracked machine	21
Mowing machine or vehicle controlled by a pedestrian	16

Mobile plant taken on the public highway will come into the appropriate gross vehicle weight categories and be registered and insured.

Persons must also be trained and hold an approved Certificate of Competency for the particular item of mobile plant or equipment, refer to 4.2.

5.2 Persons Operating Mobile Plant & Equipment in Depots and Other Premises

Persons must be; over 18 years of age, trained and hold a Certificate of Competency for the particular item of mobile plant or equipment.

5.2.1 Recognised National Mobile Plant Operators Schemes

- CPCS (Construction Plant Competency Scheme - Previously CITB)
- EPCS (EPIC Plant Competency Scheme)
- NPORS (National Plant Operators Registration Scheme)

- LANTRA (National Training Organisation)
- ITSSAR (The Independent Training Standards Scheme and Register)
- RTITB (Fork Lift Trucks Only)
- IPAF (International Powered Access Federation)

All training to be re-assessed at specific intervals as required by competence scheme and Unitas Standard requirements.

Unitas employees who hold Certificates of Competence when joining Unitas are assessed by either:

- attending a 'refresher' course by Trainers who are approved suppliers to Unitas
- or
- a competent Unitas trainer/operator as instructed by Unitas Management

In both cases the operator is given a 6 week probationary period to confirm competency in operating the item. If not acceptable the operator is either given re-training or other actions taken as decided by the management team. Subcontractors must provide evidence of training to the satisfaction of Management.

5.3 Persons Operating Mobile Plant & Equipment used in Construction Work

Unitas personnel and subcontractors must be trained and hold a CPCS approved Certificate of Training, or other certificate of training by a recognised training provider, for the particular item of mobile plant or equipment. They must also be over the minimum age as per the table below.

Plant/Equipment Description	Minimum Age	UK Driving Licence	CPCS Cat Ref
<i>Plant & Equipment used on Construction Work</i>			
Crawler Crane	21 yrs	No	A02
Tower Crane	21 yrs	No	A04
Dragline	21 yrs	No	A05
Concrete pump –Truck Mounted Boom	21 yrs	Yes	A06
Forward Tipping Dumper-Wheeled	18 yrs	Yes	A09 A
Forward Tipping Dumper-Tracked	18 yrs	Yes	A09 B
Excavator 180° < 5 tonnes	18 yrs	Yes	A10
Excavator 180° > 5 tonnes	21 yrs	Yes	A12
Rough Terrain Masted Forklift	21 yrs	Yes	A14
Forklift Side-Loader	21 yrs	Yes	A15
Industrial Forklift Truck	21 yrs	Yes	A16
Telescopic Handler	21 yrs	Yes	A17
Reach Truck	21 yrs	Yes	A18
Grader	21 yrs	Yes	A19
Wheeled Loading Shovel	21 yrs	Yes	A21
Tracked Loading Shovel	21 yrs	Yes	A22
Skid Steer Loader	18 yrs	Yes	A23
Motorised Scraper	21 yrs	Yes	A24
MEWP Scissor	21 yrs	No	A25
MEWP Boom	21 yrs	No	A26
Ride on Roller	21 yrs	No	A31
Soil/Landfill Compactor	21 yrs	No	A32
Agricultural Tractor	18 yrs	Yes	A33
Crawler – Tractor/Dozer	21 yrs	No	A34
Crawler – Tractor/Side Boom	21 yrs	No	A35
Lorry Loader	21 yrs	No	A36
Trencher	21 yrs	No	A37
Skip Handler	18 yrs	No	A39
Loader Compressor	21 yrs	No	A41
Crusher	21 yrs	No	A42
Screeners	21 yrs	No	A43
Piling Rig – Driven < 15 tonnes	21 yrs	No	A45
Piling Rig – Driven > 15 tonnes	21 yrs	No	A46
Piling Rig – Bored < 15 tonnes	21 yrs	No	A47
Piling Rig – Bored > 15 tonnes	21 yrs	No	A48
Dump Truck – Articulated Chassis	21 yrs	Yes	A56
Dump Truck - Rigid	21 yrs	Yes	A57
Excavator 360° < 10 tonnes	21 yrs	Yes*	A58
Excavator 360° > 10 tonnes	21 yrs	Yes*	A59
Mobile Crane	21 yrs	Yes	A60
Compact Crane	21 yrs	No	A66

*Unless the excavator is operated wholly on an enclosed site that does not require the excavator to operate on the public highway.

5.4 Mobile Plant & Equipment – Key control

- All plant keys will be under the supervision of the on-site supervisor/ganger
- All plant keys will be removed from the plant when left unattended
- Only trained/authorised personnel are to operate plant and equipment
- All keys must be kept in a secure area of site

All projects of 20 days or more will require the following, additional control measures to be in place:

- Key safe to be present on site and locked and controlled by the site manager
- A process adopted and communicated for the logging in and out plant keys
- Nominated on-site personnel to issue plant keys on a shift to shift basis
- A recognised system in place to identify registered keys (e.g. cable tie)

5.5 Driver Mandates

Drivers are only to be authorised and permitted to drive company vehicles after Unitas Fleet have received confirmation from the DVLA that they hold a valid driving licence.

Drivers are required to complete a DVLA mandate and return it to our service provider. The mandate is valid for three years.

5.6 Competence Training

During training, persons may operate mobile plant or equipment under the direct supervision of a qualified operator.

The qualified operator must:

- Agree to train the person and take responsibility for the use of the mobile plant or equipment
- Be in close attendance. This is either riding with the trainee in the case of rider operated plant (if a passenger seat is fitted) or in a position to observe the trainee and communicate with them

Only Trainers who are approved suppliers to Unitas are allowed to train Unitas personnel and issue Certificates of Training.

All operators must take time to familiarise themselves with plant with varying controls. An assessment/practise must be carried out prior to commencing work. This should be at least 15 minutes, in a 'safe' area and cover all operations.

6 Appendix 1 – Portable Appliance Testing Frequencies

HSE Guidance

Portable Appliance Testing

A portable or movable electric appliance is any item that can be moved, either connected or disconnected from an electrical supply. Portable or movable items generally have a lead (cable) and a plug.

Portable and movable equipment includes the following:

- electrical equipment that can be easily moved around, such as kettles, vacuum cleaners, floor cleaners/polishers, portable heaters, fans, desk lamps, some TVs, radios,
- some small electric cookers, computers, laptops PC projectors, and kitchen equipment including food mixers, toasters etc.;
- Industrial equipment such as grinders, electric drills and hand-held lamps (Medium Risk) larger items that could be moved (but only rarely), e.g. water chillers, fridges,
- microwaves, photocopiers, vending machines, washing machines, electric cookers, fax machines, desktop computers, electric beds etc are considered to be movable items;
- hand-held items, such as hairdryers, that do not have a plug but have been wired in (or fixed) are still considered to be portable appliances, but large electrical items, such as water boilers that are wired in, are not portable appliances as they are not designed to be moved and would come under the scope of fixed installation maintenance;
- mobile phone and other battery-charging equipment that is plugged into the mains (but the phones themselves and any other battery-operated equipment would not be included); and extension leads, multi-way adaptors and connection leads (High Risk)

Inspection and Testing

Earthed equipment and double insulated equipment - when deciding whether to test electrical equipment, you need to consider the type of construction of the equipment in use.

There are two basic types of electrical equipment construction :-

Class I (earthed)

Class II (double insulated).

Earthed equipment

For safety reasons, Class I equipment has an earth connection. If there is a fault within the equipment there is a possibility that the outside of the equipment could cause an electric shock if the earth connection is not there. As a result, it is recommended that Class I equipment has a portable appliance test to ensure the earth connection is sound.

Double insulated equipment

Class II equipment is sometimes referred to as 'double insulated' equipment. This means that there is extra insulation within the construction of the equipment to prevent accidental contact with live parts, even if there is a fault.

Class II equipment does not need an earth connection to maintain safety. It will not need a portable appliance test, although you should ensure that user checks and visual inspections are carried out as the integrity of the equipment casing is a key safety feature.

Maintaining portable electric equipment in low-risk environments

Class II equipment is marked with a symbol. If you cannot see this symbol, you should assume that the item is a Class I appliance and carry out a portable appliance test.

Formal Visual Inspections (Without Testing)

For user checks and formal visual inspections of equipment for low risk environments follow the frequency from the HSE Guidance matrix at Table 1

Combined Inspection & Test

For combined inspection & test, again follow the frequency set at Table 1 but record results as per Table 2 after carrying out the following :-

Obtain the immediate users comments and complaints (if any) on the performance of the appliance. NOTE - Manufacturers recommendations and past test results must be requested by the competent person before testing commences. IF THERE IS ANY DOUBT ABOUT THE INFORMATION PROVIDED, THE INSULATION AND ELECTRIC STRENGTH TEST (FLASH TEST) MUST NOT BE CARRIED OUT.

Test the continuity of the protective conductor of the assembled appliance and its flexible cable with a suitable heavy current earth fault loop impedance tester or portable appliance tester. NOTE - Any protective conductors found to be defective are to be repaired immediately and recorded

Test the insulation resistance measured between the line and neutral when connected together, and the earth pin of the plug. With any built-in switch/es "ON" this should not be less than 0.5 mega-ohm.

Check the condition of any brushes in the motor driven appliance and re-new when necessary. After inspection and testing, check that the appliance (including any built-in switch/es) is functioning correctly.

Microwaves ovens should also be tested for radiation leakage

Attach the appropriate (fail/pass) self-adhesive labels to the connector and appliance. NOTE - Any piece of equipment failing the test shall be tagged with a warning label "Do Not Use" and immediately withdrawn from service and quarantined until a decision is reached to repair or replace.

Table 1-HSE Guidance – Suggested initial intervals for checking portable electric equipment

Equipment/environment	User checks	Formal visual inspection	Combined inspection and testing
Battery operated (less than 40 volts)	No	No	No
Extra low voltage (less than 50 volts AC): Telephone equipment, low voltage desk lights	No	No	No
Desktop computers, VDU screens	No	Yes, 2-4 years	No if double insulated, otherwise up to 4 years
Photocopiers, fax machines: Not handheld. Rarely moved	No	Yes, 2-4 years	No if double insulated, otherwise up to 4 years
Double insulated (Class II) equipment. Not hand-held. Moved occasionally, eg fans, table lamps	No	Yes, 2-4 years	No
Double insulated (Class II) equipment. Hand-held eg some floor cleaners, some kitchen equipment	Yes	Yes, 6 months- 1 year	No
Earthed equipment:(Class I) Electric kettles, some floor cleaner, some kitchen equipment and irons	Yes	Yes, 6 months – 1 year	Yes, 1-2 years
Cables (leads and plugs connected to above) and mains voltage extension leads and battery-charging equipment	Yes	Yes, 6 months- 4 years depending on the type of equipment connected to	Yes, 1-5 years depending on the equipment connected to

Table 2 -Unitas Requirements for portable electrical equipment testing

Equipment	Frequency	Inspection type; visual, combined
Laptops, PC, photocopier/printer	4 years	Combined
Double Insulated -occasional	4 years	Visual
Double Insulated- hand held	4 years	Visual
Earthed- kettle, toaster, small equipment etc.	1 year	Combined
Cables/battery chargers/extension leads	1 year	Combined
Construction site 110V equipment	3 months	Combined