

1: PAT Testing | Portable Appliance Testing | Northwest

Portable appliance testing (PAT) is the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use. Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing.

Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing. The frequency of inspection and testing depends upon the type of equipment and the environment it is used in. For example, a power tool used on a construction site should be examined more frequently than a lamp in a hotel bedroom. For guidance on suggested frequencies of inspection and testing, see: Maintaining portable and transportable electrical equipment. Why PAT is Done? The keyword is liability. An employer or manufacturer should show as much concern about safety as does the legal system. The liability is with the employer or owner of a place of business, or public place, to ensure that all electrical equipment accessible by employees or the public is maintained in a safe condition. There are a number of reasons why appliances should be PAT tested on a regular basis, but we feel the most important ones are: To comply with The Electricity at Work Regulations. To minimise the risk of fire and injury caused by electrical appliances. To satisfy your Insurance Company. Quality Assurances also requires you to comply. A relatively brief user check based upon simple training and perhaps assisted by the use of a brief checklist can be a very useful part of any electrical maintenance regime. However, more formal visual inspection and testing by a competent person may also be required at appropriate intervals, depending upon the type of equipment and the environment in which it is used. Testing involves a visual inspection of the equipment and any flexible cables for good condition, and also where required, verification of earthing grounding continuity, and a test of the soundness of insulation between the current carrying parts, and any exposed metal that may be touched. In a low-risk environment most dangerous defects can be found simply by checking the appliances for obvious signs of damage such as frayed cables. If you have an appliance that has a plug that is intended to be connected to a wall socket or generator, it qualifies as needing to be PAT tested. This can include items such as electric drills, monitors, printers, PCs, kettles and larger items like photocopiers, vending machines and others. So a cordless power tool would not need to be PAT tested but their battery chargers that plug into the wall for power do need to be tested. Frequency of PAT Testing In order to determine how often you should have your appliances tested, you should bear in mind a few different factors: Equipment that is used more should be tested more frequently. This equipment is likely to suffer less damage than that used regularly. If people using equipment report any damages as they become noticeable, there is less chance of a major hazard. If equipment regularly receives damage or abuse that is not reported then inspections and testing are required more frequently. The type of equipment in question is a major factor in determining PAT testing frequency. Hand held appliances are more likely to become damaged than those that are stationary. Class 1 appliances carry the greatest risk of danger and should be tested more often. Visual Examination Visual examination is vital and always precedes electrical testing. It often reveals major defects that would not be revealed by testing alone. Operator checks no records if equipment is OK. Formal visual examination recorded. Combined visual examination and electrical testing recorded. If the cable passes your visual inspection, use a standard test lead included with most PAT testers to perform the following testing procedures: The purpose of the test is to ensure that the ground terminal has a low resistance connection to the conductive metal casing of the appliance. An effective connection to the system ground within the fixed installation of the premises ensures safety. Insulation Test The insulation test is used to confirm that there is separation between the live conductors live and neutral and any accessible conductive parts. Generally, insulation testing is carried out by applying a known test voltage V DC and measuring the resistance. On sensitive equipment IT for example V may cause damage, and so be unsuitable. Therefore, it may be substituted with a low-voltage V insulation test, a touch current test or an alternative leakage current test. Differential Leakage Test The differential leakage current also called protective conductor current test measures the difference in current between the live and neutral conductors and determines if any current is flowing to earth. Normally, appliances should have no, or

very little, earth leakage current. Class II double insulated appliances could exhibit earth leakage through their mountings or by operator contact. During the test, the actual mains voltage is measured at the appliance socket. To ensure that the equipment is safe even when the mains supply rises to its maximum permitted value, the PAT calculates and displays the leakage current that would flow at this value. Load Test The load test also called the operational or VA test measures the power consumption of the equipment when running. The load VA limit is usually set based on the rating plate on the appliance. If the asset functions correctly. The VA rating of the appliance. Polarity Check In countries where the sockets are polarised, polarity testing is a simple test that can be carried out using a polarity tester to determine whether the active and neutral of the plug end are correctly connected to the corresponding terminals at the socket end. Flash Testing Flash testing measures the leakage current when high test voltages are applied to an asset. The flash test provides a high ac test voltage V or V and measures the leakage current. This test can be destructive and is usually only used on equipment that has been repaired. The label must consist of a unique identifier for the equipment, the date it was tested, the re-test date and an indication of its state. A failed asset does not need the dates on, just clear identification that it has failed. Printed labels often consist of a bar code for the identifier making them easy to read with a suitable barcode scanner. Documentation A register of all equipment. A record of formal and combined visual examinations and electrical tests. A register of all faulty equipment. Our reports are done in a way that makes them easily understandable. Our testing remains consistent throughout the country. Carelabs use the same systems and latest test equipment to ensure such consistency.

2: Portable Appliances Testing |

Portable Appliance Testing, also known as PAT testing, every electrical appliance fitted with a plug should be PAT tested regularly. At Powertest we can help you with your PAT Testing in Haywards Heath and throughout West Sussex.

Purpose[edit] Health and safety regulations require that electrical appliances are safe and maintained to prevent harm to workers. Many equipment manufacturers recommend testing at regular intervals to ensure continual safety; the interval between tests depending on both the type of appliance and the environment in which it is to be used. The European Low Voltage Directive governs the manufacture or importation of electrical appliances. Compliance to this has to be declared and indicated by the display of the CE mark on the product. The responsibility for this lies with the manufacturer or the importer and is policed by Trading Standards. Testing equipment has been specifically developed for PAT inspections, based on the testing equipment used by manufacturers to ensure compliance with the British Standard Code of Practice and European product standards relevant to that type of appliance. This in turn allows testing and the interpretation of results to be de-skilled to a large extent. This can result in cost savings and more flexibility as to exactly when a PAT is carried out. Origin of name[edit] Portable appliance testing is abbreviated as PAT. The HSE and the local authority are responsible for the policing of this legislation. Fixed wiring in buildings[edit] Guidance from the Institution of Engineering and Technology IET, published under the IEE brand and the Health and Safety Executive HSE recommends that a competent person must inspect the installation regularly in any public building or a place that people work. They suggest initial intervals for combined inspection and testing that range from three months for construction equipment to one year, and in many cases, longer periods for re-testing certain types of appliance in schools, hotels, offices and shops. In reality neither act nor their corresponding regulations and associated statutory instruments detail PAT inspection as an obligation, but rather impose a requirement of maintenance of safety and evidence of routine maintenance for all hand-held, portable and plug-in equipment. Today a great many private companies and other organizations do meet their legal obligations to protect their workers by an enforced PAT regime, but it is not the only route. Recent HSE publications have relaxed their tone somewhat to acknowledge this, and now point out that in many situations annual PAT is disproportionate to the risks and is often not required. Thinking about the type of equipment in use, and how it was used, the HSE looked back at the results from its annual testing of portable appliances across its estate over the last five years. Using the results of the previous tests, the HSE decided that further portable appliance tests are not needed within the foreseeable future or at all for certain types of portable equipment. Also, they decided to continue to monitor any faults reported as a result of user checks and visual inspections and review its maintenance system if evidence suggests that it needs revising. Electrical equipment will continue to be maintained by a series of user checks and visual inspections by staff that have had some training. Annual portable appliance testing is not always necessary in low risk environments. You do not need to be qualified as an electrician to carry out visual inspections. Regular user checks and visual inspections can be a good method of maintaining portable electric equipment. For landlords maintaining legal requirements it is not compulsory for them to have all appliances tested, but they do need to show a "duty of care" and most letting agents recommend that a test certificate is obtained. Extensive record-keeping was made into log-books and generally the equipment used was an insulation resistance tester, simple hand tools and visual inspection. Evidence of testing was clearly visible to workers in the form of "passed", "tested for electrical safety" and "do not use after This early testing and inspection was done under a planned maintenance scheme and pre-dated both the Health and Safety at Work Act and the Electricity at Work Act Site and campus requirements, events and contractors[edit] In the UK there is no legal instrument that requires a sub-contractor to ensure that all tools and equipment are PAT inspected before bringing onto a site of work. Neither is there any legal instrument which obliges the site owner to ensure third-party equipment is PAT inspected either by themselves or the equipment owner. The internal policies of many UK businesses and educational establishments make mistaken reference to PAT inspection being a legal requirement under the Electricity at Work Regulations, which is false. Having such a policy is legitimate for internal reasons, but it is not

underwritten by law, it is only their interpretation. Therefore, it is not a legal requirement to have a PAT inspection sticker or certificate, the obligation is that equipment must be safe. The HSE recommend policies use phrases such as "Equipment that is brought onto site for an event must be in a safe condition" and refrain from overzealous statements such as "must be PAT inspected" which can be restrictive without improving safety. Overall it is safer if a competent person makes a visual inspection than if a layman merely observes the presence of a sticker. Carrying out PAT[edit] This can be done by hiring an external company to test all the electrical products in a business someone who has had some PAT training, either by an official qualification or by attending a health and safety course offered by some electrical health and safety companies or it can be done in-house by a competent person. In a low-risk environment most dangerous defects can be found simply by checking the appliances for obvious signs of damage such as frayed cables. User checks[edit] Advising the user of potential danger signs can result in problems being picked up before they can result in any danger. For example, if the power cable is frayed or the plug is cracked, users need to be advised not to use the appliance and report the fault to a supervisor. This information can be put across, say by the use of a poster or in a memo. User checks are always carried out before operation, and the results are generally not recorded, unless a defect is identified. Formal visual inspections[edit] This is a process of simply inspecting the appliance, the cable and the plug for any obvious signs of damage. At these intervals, a formal visual inspection is carried out and then followed by PAT testing. Note the inside of the plug should be checked unless it is moulded or there is an unbroken seal covering the screws bad internal wiring or an unsuitable fuse would cause the item to be classed as dangerous. Testing[edit] The tests an appliance is required to undergo will depend on the type of appliance, its electrical Class and subject to a risk assessment by the technician. Earth resistance test[edit] This test shows the resistance offered by the earthing rods with the connection leads. Various testing instruments are available for earthing resistance tests. Later model testers that are battery powered are limited to doing the "screen test". Older mains powered units can do all tests. Even "type testing" may only be testing at a fraction of the operational power of the unit. The power dissipated in the earth is only watts compared to operational power which may be in excess of watts. Insulation resistance test[edit] A leakage current test performed at rated voltage with values not exceeding 5mA for Class I appliances or 1mA for Class II appliances. Polarity check[edit] In countries where the sockets are polarised, polarity testing is a simple test that can be carried out using a polarity tester to determine whether the active and neutral of the plug end are correctly connected to the corresponding terminals at the socket end. The earth is tested during the earth continuity test. The RCD tester should be connected with the socket, with earth terminal must!! Microwave ovens[edit] There are two specific extra checks mandated for microwave ovens in the United Kingdom. A piece of calibrated equipment is required for these tests to detect and measure leakage of the 2. As Microwave ovens are not normally designed to be operated without a load this will usually take the form of an open container containing a quantity of water which is used to absorb the energy and as it gets warmed gives an indication that a unit not previously examined by a tester is actually producing microwaves. After checking for leakage the door is required to be opened by whatever means is provided and the measurement device is not to record a level above the given limit. In some scenarios a known quantity of water is heated for a known period of time and the temperature rise over the period of operation is used to generate an indication of the effective power output of the magnetron. This can be helpful to determine whether the oven is operating at the expected power levels indicated by labelling. Class of construction[edit] Electrical appliance classes are differentiated by a series of IEC protection classes. The protocols for PAT Testing vary by appliance class. Class I "Single insulated wiring, which requires an earth connection. There is no symbol for a Class I product so if a rating plate has no symbol on it then it is usually Class I. Class II "Double insulated wiring, The earth clamp is still connected during the insulation test even though no earth on appliance. Class II is indicated by double box. These appliances are supplied with a transformer supply that is also marked. For "Class I" during the earth test to prove continuity between earth pin and metal parts on the appliance. For "Class II" during the insulation test to prove the insulation between active-neutral and the metal parts of the appliance. The Electricity at Work regulations of simply state that where required, inspecting and testing must be carried out by a competent person, however does not mention a benchmark for competency. It

has become accepted practice, however, for individuals operating as PAT Testers to hold a 22 City and Guilds qualification. PAT Testers in the UK do not need to be electricians or have a background in the electrical industry. In Australia it is a legal requirement to have attended a course or gained a qualification in order to PAT. A formal examination process for the topic is operated in collaboration with EAL or city and guilds the awarding body under the authority of the QCA The Qualifications and Curriculum Authority who validate and authorise the qualification. Most are equipped with an earth continuity test, insulation resistance test and the ability to check the wiring of detachable mains cords. Many do not however include tests which involve applying mains power to the appliance under test, for example, a protective conductor current or touch current tests. Advanced PAT testers can give much more information and testing features but are mainly aimed at more highly skilled users. Mains powered testers require AC power. Battery operated PAT testers are self-contained and convenient to use. They usually come with rechargeable batteries. These testers have a simple "lights" system. They also will show:

3: PAT Expert Multi-discipline Electrical Contractors |TA Boxall Engineering

Portable Appliance Testing. Portable appliance testing or PAT Testing is the process of checking electrical appliances for safety through a series of visual inspections and electronic tests.

The Electricity at Work Regulations place a legal responsibility on employers, employees and self-employed persons to comply with the provisions of the regulations and take reasonably practicable steps to ensure that no danger results from the use of such equipment. This in effect requires the implementation of a systematic and regular program of maintenance, inspection and testing. Where appliances are used by employees. Where the public may use appliances in establishments such as hospitals, schools, hotels, shops etc. Where appliances are supplied or hired. Where appliances are repaired or serviced. How often do I need my appliances tested? This is a decision to be made by the Duty holder of your establishment. Powertest Ltd can advise and guide all of its customers on the suggested requirements of testing. Powertest Ltd can offer a plan to review your items on a frequency that suits your business needs and complies with current regulations and legal requirements. Who should do the Testing? Why should you use Powertest? The IEE Code of Practice states, those carrying out the inspection and testing must be competent to undertake the inspection and, where appropriate, testing of electrical equipment and appliances having due regard of their own safety and that of others. All of our engineers have City and Guilds electrical qualifications to show that they are fully competent to complete your companies testing. We pride ourselves in providing a professional service at all times. What happens if my appliance fails the tests? There are numerous reasons why your appliance may fail a test, for e. Powertest aim to complete minor repairs to as many of the failed appliances as possible, all our engineers carry minor spares, such as fuses, plug tops and cable, which enables us to complete a repair at the time of inspection, so the item can be repaired and re tested. Also this saves your business time and money where an additional contractor would need to be arranged to return to complete the job. However some items may fail and be beyond a minor repair in which case we will issue you with a failure report on the day of the visit, and ensure these items are taken out of service, for safety reasons until the customer arranges either repair or disposal.

4: PAT Testing, Fixed and Portable Appliance Testing

PAT: Portable Appliance Testing, 4th ed and millions of other books are available for Amazon Kindle. Learn more Enter your mobile number or email address below and we'll send you a link to download the free Kindle App.

Our aim is to keep you, your tenants or workplace in safe. The frequency of PAT testing in Edinburgh varies upon the type of equipment and the environment it is used in. For example, a power tool, which is hand held and used on a construction site should be examined more frequently than a desk lamp in a hotel bedroom. For more detailed information please check out the [www](#). Any item deemed not safe to use will have a failed label applied and our Approved Electrician who will advise our client on site. The Technician will also detail on the Job Sheet the failed item and will ask the client to initial their knowledge of the failed item. It is then the clients responsibility to either repair the item or have taken off site to ensure the item is no longer used. We can cut the plug off or cut the cable at the item end or other such measures as advised by our client. If required we can repair small faults such as incorrect rated fuses. Free from cuts, fraying and damage or exposed copper Not in a location where it could be damaged for example under a carpet or could cause a trip hazard, or squeezed tightly between desks or jammed in a floor box. No joints or connections that may render it unsuitable for use, such as taped joints a favourite for DIY dads! Only one flex connected into one plug we found that customers sometimes connect 2 cables into plugs. Check for hazard from water through spillage or leak. Chargers should not be left plugged into a socket when not in use. Free from chemical or corrosion damage to the outer casing which could result in access to live parts. Flexible cable secure in its anchorage. The cable grip should be checked by firmly pulling and twisting the cable. No movement should be apparent. We carry out PAT testing in Edinburgh and surrounding areas and keep a record to auto remind you when it is due. We carry out a full range of landlord services including. EICR and PAT testing in Edinburgh and surrounding areas Hard wired smoke alarm installation in Edinburgh and surrounding areas CO detection "hard wired or lithium battery in Edinburgh and surrounding areas General electrical installations, such as sockets, lighting and switches LED downlights in Edinburgh and surrounding areas.

5: Cambs PAT " Portable Appliance Testing

PAT Testing. Cambs-PAT provides testing that is carried out under the IEE's Code of Practice for In-Service Inspection and Testing. This testing includes all electrical equipment as detailed in the IEE Code of Practice.

6: P and S electrical | PAT(Portable Appliance Testing) company from Hastings

Portable appliance testing (PAT) by a Fire and Safety Solutions Limited engineer involves the inspection of electrical appliances and equipment to ensure they are safe to use. The majority of electrical safety defects can be identified just by inspecting the electrical device, however some defects and issues can only be found by testing.

7: Powertest Limited | PAT (Portable Appliance) Testing in West Sussex

Portable Appliance Testing for Offices - here's what you need to know. Most office staff use electrical equipment, but if electrical equipment is unsafe it could cause personal injury, workplace fires or even kill.

8: Portable Appliance Testing - iTrac PAT Testing

The company was established in , starting out PAT testing in preston and has been providing portable appliance testing services and appliance inspection services throughout Lancashire and the Northwest ever since.

9: PAT Testing Courses, City & Guilds - Plugtest Ltd

PAT (Portable Appliance Testing) and specialist electrical testing in Hastings, East Sussex.

XV. Continuation of the same Subject. How God receives Sinners. Parable of the Prodigal Son. Image of our Here without you tammara webber Or drm removal is a pkg Aerospace the journey of flight 3rd edition Webster, D. The murder of Captain Joseph White. International Motor Racing Guide Nursing care planning guides, set 5 Gods Easter Plan (Passalong Arch Books) A space to draw close to God. Select eulogies of members of the French academy Physics shortcuts for entrance exams People of the islands VI. St. John Hankin. How Animal Babies Stay Safe (Lets-Read-And-Find-Out Science: Stage 1 Decree on the ministry and life of priests (presbyterorum ordinis) Hemingway Tradition Politics and promise Opportunities in overseas careers Prayer in the spirit A coach worth following : discovering our God-given purpose Neglect, revival, and controversy : the Passion in performance. The big war over cuties Presidential Landmarks Energy audit project report Pocket Essentials of Obstetrics and Gynaecology (Book with CD-ROM Package (Pocket Essentials) European competition law and economics This Will Be a Picture Sport and recreation in Britain Happily never after MRCP Part 1 past topics Chemical power sources Using Informix Dynamic Server With Websphere A book of Irish-American blessings Bk. 2. The one tree The bone collector book Three Pioneering Egyptian Novels Keynes General theory International laws of war Ajax persian book filetype Social problems a service learning approach