

TRADE AREA: ELECTRICAL INDUSTRY**Some possible workplace hazards and possible ways for Host employers and Apprentices/Trainees in controlling these hazards.**

What are possible hazards?	What could be possible control measures?
Manual handling (bending, reaching, stretching, pulling, lifting, repetitive motions, awkward postures)	<ul style="list-style-type: none"> • All employees/staff trained how to lift properly and perform their particular task safely • All employees undertake training in safe manual handling techniques. • High shelves are for light goods only • Walkways are kept clear • Have bulky materials delivered to the final work location or use mechanical load shifting devices (e.g. hand trucks, cable trolleys) to move materials around the site • Order materials in smaller size containers (i.e. 100m cable drums instead of 500m) • Avoid manual cable pulling, where possible, use cable rollers suitable for the size of the cable, avoid pulling cables around tight bends & where necessary mechanically pull the cable • Heavy or awkward objects/loads should be mechanically lifted& have lifting points or handles fitted. • Reduce work reaching above shoulders for long periods • Rotate workers through a variety of tasks • Take breaks to vary postures • Use appropriate PPE (e.g. gloves, long trousers, boots & safety glasses,) • Sharp edges of metal trays & ducts should be covered to avoid wounds/lacerations • Fit protective caps to the end of all thread droppers & exposed rebars • Exercise: warm up/stretch before starting work, and cool down/stretch at end of the shift or working day • First aid kits available and fully stocked • First aid kit regularly checked. • Workers have access to people trained in first aid
Slips, trips and falls	<ul style="list-style-type: none"> • Use the highest level of falls prevention measures such as guard railing, physical barriers or perimeter scaffolding • Floor surfaces are slip resistant • Ensure all working areas and access ways are clean, level, well-lit, in good repair and clear of potential/actual tripping hazards (e.g. electric cords) • Wear sensible non-slip footwear • Remove unwanted material and construction waste regularly from site so it does not accumulate • Ensure construction material, power leads, tools & equipment are positioned to avoid creating tripping hazards • While cleaning, workers wear PPE, including protection against scalding • Wet floor warning signs always used • Doormats at entrance in wet weather • Good lighting in all areas • Floors in all areas cleaned thoroughly according to a daily schedule • Equipment maintained and repaired regularly to prevent leaks • Edges of large pieces of equipment are painted to make them more visible • Replace steps with ramps where practical
Powered and non-powered tools	<ul style="list-style-type: none"> • Workers trained to recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards • Employers caution employees that tools be directed away from aisle areas and other employees working in close proximity. • Appropriate personal protective equipment, e.g., safety goggles, gloves, hearing protection etc., are worn due to hazards that may be encountered while using portable power tools and hand

	<p>tools.</p> <ul style="list-style-type: none"> • Floors are kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools. • Tools have a safety a safety clutch • Tools are inspected regularly • Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum, or wood provide for safety. • Guards according to manufacturer’s instructions are in place where required • Test & tag undertaken for all electrical equipment • Proper apparel is worn- no loose clothing, ties, or jewelry that can become caught in moving parts. • Damaged or faulty equipment is removed from the work area where practical and /or are isolated, locked out and tagged to prevent use • Right equipment for the job is used
<p>Working at ground or floor level</p>	<ul style="list-style-type: none"> • Use tables, benches, or stands to bring work to waist height • Use tools with extension handles to avoid excessive bending • Provide mechanical aids • Wear PPE (e.g. knee pads) • Rotate workers through a variety of tasks • Machinery has been identified that may expose workers to electrical risk
<p>Working at Heights</p>	<ul style="list-style-type: none"> • Perform the task on the ground if possible • Fall protection devices installed (e.g. temporary work platforms, roof safety mesh, guard railing or scaffolding) • Work positioning system used (e.g. a rope system to position and support the worker for the duration of the task) • Fall injury prevention system in place (e.g. an industrial safety net, catch platform or a safety harness) • Ensure ladders are compliant with AS 1892 • Ladders are always visually inspected prior to use, to ensure no damage or wear has occurred that could make them unsafe • On-site risk assessment developed every time work is to be done at height to outline the way the hazard will be managed • Inspect the work area prior to the commencement of work to ensure that all platforms & surfaces are stable and structurally sound • Specific risk areas clearly signposted • Provide training to employees to provide them with the skills& knowledge to do their work safely such as training in the use of falls protection equipment etc • Monitor the work at height practices of all employees to ensure they are working safely
<p>Damaged cords & tripping/falling</p>	<ul style="list-style-type: none"> • Floor surfaces are slip resistant • Use highest level of fall prevention (e.g. work from scissor lifts or step platforms instead of ladders) • Remove unwanted material & construction waste regularly from site so it does not accumulate • Do not run cords along the floor in doorways or other passage areas to prevent wear & possible tripping accidents • Do not hang cords- even- temporarily – where a passing adult, child or pet could become caught up in them • Electric cords should not be wrapped around or draped over steam pipes, heaters or any other hot surface • Damaged cords are never repaired using ‘electrical tape’ • Ensure all working areas and access ways are clean, level, well-lit and in good repair • Wear sensible non-slip footwear • Ensure power leads, tools, equipment & parts are handled & positioned carefully to avoid creating tripping hazards

	<ul style="list-style-type: none"> • Wet floor warning signs always used • Fit non-slip bars to any stairs • Doormats at entrance in wet weather • Good lighting in all areas • First aid kits available and fully stocked • First aid kit regularly checked. • Workers have access to people trained in first aid • All power cords are checked periodically to ensure they are not worn or cracked
Using hand tools	<ul style="list-style-type: none"> • Use power tools which are lightweight, low vibration, noise restricted and fitted with clutches and safety guards • Tools should be ergonomically designed so they are comfortable to use • Cable strippers should be used in preference to knives • Work gloves should absorb impact energy, provide protection from sharp edges and be puncture resistant • Avoid working in front of face and always strip cable away from the body • Rotate workers through a variety of tasks so workers are not undertaking the same task or holding the same postures for extended periods • A/T provided with instruction in safe use of hand tools • Portable cable stands are used when required
Overloaded socket outlets	<ul style="list-style-type: none"> • Train staff in not putting too many electrical plugs into one outlet • There are no double adaptors or three-pin plug adaptors in use • If the workplace has more plugs than outlets, get a qualified electrician to evaluate the wiring system • Add more outlets or upgrade the wiring system • If must use a multi- outlets adaptor, use one which is up to the appropriate safety standard
Extension power outlets	<ul style="list-style-type: none"> • Must be of a safe type • Extension cord should be arranged to prevent tripping • If extension power outlets are of the multi- outlet design, then similar precautions as mentioned above for 'adaptors' should be observed. • Flexible cords are protected from water, being damaged or cut
Power plugs	<ul style="list-style-type: none"> • Ensure correct inside wiring of the power plug is undertaken and checked prior to use • Live and neutral conductors are not interchanged • Cable is securely fixed by the cable clip • Earth wire is not over-tensioned so that it will not break and come out easily • Metal cased tools not to be inserted into power plugs • Ensure proper type of power plugs used to reduce electric arcing from occurring (loose contact between the plug & the socket generates a large amount of heat & possibly start a fire) • Plugs, sockets & extension leads are maintained in a good condition • Power points are suitable for the location and are positioned safely
Residual Current Devices (RCDs) or safety switches	<ul style="list-style-type: none"> • All portable electrical equipment is protected by RCDs • RCD device is labeled and has been tested • RCDs are installed at switchboards or into fixed sockets
On construction and demolition sites	<ul style="list-style-type: none"> • Portable electrical equipment Has been tagged • There is a record of previous tagging/testing • All final sub-circuits, socket outlets, portable generators and equipment are protected by RCDs • No aerial cables are fixed or attached to scaffolding
Noise	<ul style="list-style-type: none"> • Employees are not exposed to noise that exceeds the national exposure standard (more than 85 dB) • A risk assessment on noise has been conducted where it is likely that workers are exposed to noise levels of 85 dB • Prevent hearing loss by using noise insulated (hired, subcontracted or directly owned) equipment (e.g. silenced hammer drills)

	<ul style="list-style-type: none"> • Separate workers from noisy activities • Source of the excessive noise is eliminated • Noisy equipment positioned away from other work areas • Hearing protection provided and worn • Hearing protection supplied and used when working with or near power tools or powered mobile equipment • Powered tools are maintained to reduce noise • A/T 's exposure to excessive noise is limited • A/T trained in how to use hearing protection correctly • Audiometric tests undertaken as required • Warning signs placed in areas of excessive & continual noise & that hearing protection is required
Hot weather conditions	<ul style="list-style-type: none"> • Work re-scheduled when extreme weather conditions present risk • Regular rest breaks provided • Water facilities available • A/T dressed appropriately for the conditions
Working overhead or above shoulders	<ul style="list-style-type: none"> • Mechanical devices used • Workers positioned at a height which allows work to occur without reaching above the head
Fire	<ul style="list-style-type: none"> • Fire warden in place • Fire extinguisher regularly checked • Fire evacuation drills conducted annually/six monthly • Evacuation map and procedures displayed & staff instructed in correct evacuation procedure • Surveillance system in place to spot intruders
Electricity	<ul style="list-style-type: none"> • Licensed electricians used for any electrical work • There is a maintenance program in place for electrical installations • All electrical equipment has been tested • Socket outlets are protected by a safety switch • Machinery isolated and locked out when maintenance activities are being performed • Emergency stop buttons on equipment that needs to be stopped quickly in an emergency installed • Double adaptors or piggyback plugs are not used • Electrical equipment kept away from water and other liquids • Testing & tagging is current • Extension leads are secure and protected from damage • System for reporting and tagging out faulty electrical equipment in place • All electrical equipment is in good condition and free from damage • Leads kept away from sources of damage such as water, heat, vehicles, trolleys etc • Light fittings are suitable for the location & protected from breakage • Safety procedures are in place for workers working near overhead power lines
Dangerous goods- (e.g. natural gas)	<ul style="list-style-type: none"> • Assess work area before commencing work • Establish & communicate First Aid & emergency procedures • Use least hazardous product for the task • Splash guards in place • Adequate ventilation provided • Written risk assessments conducted to identify hazardous substances and control the risks • MSDS sheets available for substances classified as hazardous • Substances are stored safely and securely when not in use • Appropriate PPE provided • A/T trained in the safe use of hazardous substances and the required PPE • All hazardous substances are clearly labeled • Hazardous substances not stored in food and/or drink containers • Flammable and combustible liquids are stored away from ignition sources

	<ul style="list-style-type: none"> • Eye washes are located in immediate vicinity of chemical storage area • Training provided in safe storage & handling practices • Training provided in use of fire protection equipment • A 'hazardous substances register in place
Workplace bullying and harassment	<ul style="list-style-type: none"> • Bullying & harassment policy displayed in the workplace • Bullying & harassment policy & procedures explained to all employees • Procedures for reporting & resolving incidents in place and explained to all employees • Workers have received information, instruction and training in relation to dealing with bullying and harassment • Workers are trained in recognition of, communication for & management of bullying & harassment • Procedures in place to ensure timely and appropriate counseling is provided to workers following a workplace bullying/harassment/aggressive/violent incident
Working alone	<ul style="list-style-type: none"> • There is a system in place for communicating with workers working alone • The system ensures that workers have means of communicating in the event of emergency (e.g. mobile phones, duress alarms) • The system requires regular contact to be maintained with workers to ensure safety & supervision • The employer has knowledge of the location of all workers at all times during work shifts.