



SAFETY TRAINING LEAFLET 19 PORTABLE ELECTRIC TOOLS

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SAFETY TRAINING LEAFLET 19

PORTABLE ELECTRIC TOOLS

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1 Introduction

1.1 Safety leaflets

Safety training leaflets summarise the basic operational safety knowledge which needs to be known by employees working in the gas industry.

Refer to EIGA Doc 23 *Safety Training of Employees* for the various combinations of leaflets which define the scope of safety training for a variety of specific jobs.

Each leaflet addresses a specific topic as identified in the title.

1.2 Comprehension tests

There is a comprehension test for each leaflet, included in **Appendix 1**.

Each test comprises several questions. To pass the test it is suggested that the employee should score 75% at the first attempt. Incorrect answers should be discussed to confirm understanding.

Appendix 2 includes the list of correct answers.

2 Portable electric tools

Improper use of power tools can lead to serious injuries including severe lacerations, electric flash burns, eye injuries caused by flying particles, hand/arm vibration syndrome, minor electric shocks that may result in falls or severe electric shocks with potentially fatal consequences.

These tools must be operated in accordance with manufacturer's instruction and only by personnel who have received appropriate training.

Power tools are covered by the EU Work Equipment Directive 2009/104/EC which governs the design, inspection and maintenance requirements. Users are not competent to maintain or repair power tools or supply systems.

2.1 Pre-use checks on portable electric tools

- Select the appropriate tool for the task and use in accordance with manufacturer's instructions
- Perform a visual inspection before use, report any defects and do not use if unsafe.
- Ensure regular maintenance as specified by the manufacturer.
- Make sure that all cables and plugs are in good condition, the insulation is complete and undamaged.
- Confirm that the power supply voltage matches the specifications indicated by the manufacturer on the device.
- Ensure the power cord length allows safe and unrestricted operation without tension. If additional length is required, use an approved extension cable. For coiled extension leads follow the instructions for maximum power rating when coiled or uncoiled.
- Correct grounding (earthing) and residual current protection (RCD) must be in place for tools that are not double-insulated or low voltage (24 V).
- Guards provided by the manufacturers must never be removed. Self-retracting guards should be checked to confirm free operation.
- Check all switches (on/off, lock-on, "dead-man" or constant-pressure, types) before use to ensure they function correctly.

- Keep power cables as short as practicable. Whenever possible, suspend cables at least 2 meters above ground level. If cables must lie on the floor, protect them from damage by vehicles (e.g., pallet trucks, forklifts) for example by using flexible cable ducts, and route all cable to minimize tripping hazards. Keep all cables away from sources of heat, oil, and chemicals
- Only use accessories (drill bits, grinding disks, saw blades etc.) as specified by the tool manufacturer.

2.2 Safe Operation

- Ensure that all connections are made securely and remain dry. Under wet conditions, the risk of electric shock is significantly increased. Where power tools are used outdoors or in damp conditions the tool and supply should be correctly (IP) rated for water ingress. Battery operated, RCD protected or low voltage (24 V) tools are recommended.
- When operating power tools, use a safe, stable, and suitable working platform (rather than step ladders for example).
- When using a drill ensure that the workpiece is securely anchored or clamped to prevent movement or whipping.
- A circular saw should be started and stopped outside the material and should never be forced into the cut.
- Ensure that power cables remain clear of all rotating components and tools.
- Portable grinders should be handled with care to avoid damaging the grinding wheel.
- Grinding wheels should be kept away from water and oil.
- Select power tools with the lowest possible vibration level and limit the use of vibrating tools should be assessed and may require specific PPE (gloves) and management of exposure time.
- Always disconnect the power supply before changing accessories.
- Do not attempt to repair any tool. .
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- In ATEX-classified zones, only ATEX-certified tools are permitted. Within ATEX areas , power tools must only be used with a valid work permit and a confirmed atmospheric (flammable gas) measurement.
- Normal (non ATEX certified) power tools are ignition sources and must never be used potentially explosive or flammable atmospheres, such as acetylene production facilities or hydrogen bulk storage.
- Before putting a power tool down, , switch off the tool and wait until all moving parts have come to a complete stop.
- When disconnecting a tool from the power supply always pull the plug and not the cable.
- . Do not try to overcome “dead-man handles” (constant pressure switches) or any other safety devices.
- Loose clothing, jewellery and long hair shall be kept clear of moving parts.

2.3 Store carefully

- Never leave tools in elevated positions on scaffolding or on top of shelving, where they could fall and cause injury or damage.
- Do not leave tools on the floor or on the ground where they may create tripping hazards or become damaged.
- Store tools in a designated area, ensuring that blades, bits and abrasive wheels are protected from damage or contamination. Keep the cables and plugs clear of any sharp objects, oils and grease to prevent damage to the insulation.

2.4 Wear personal protective equipment

- Use protective eyewear specified for the task for example safety glasses, goggles or face shield.
- Generally, safety boots are advised when working with heavy tools or work items.
- The selection of gloves requires careful consideration based on the task and the tool, with regard to entrapment, vibration and impact hazards.
- Wear suitable work clothing .
- Wear hearing protection will be mandated when noise level exceeds 80dB(A).
- Respiratory protection may be mandated depending on the task.

Appendix 2 – Portable electric tools – Test Answers

1. A and C
2. C
3. A
4. A
7. B
8. A