



Forename: _____ Surname: _____

School / College / Institution: _____

Course date: _____

These Training and Accreditation Guidelines are based on, and should be used in conjunction with the following essential publications:

- Health and Safety Training Standards in Design and Technology: D&T Association.
- BS 4163:2021+A1:2022 Health and safety for design and technology in educational and similar establishments – Code of practice.
- Model Risk Assessments for D&T in Secondary Schools and Colleges: CLEAPSS.

Summary Overview**Please tick the boxes below to confirm the sections that you have completed in this document:**

1. Requirements relating to portable power tools (drills and sanding machines).	☐
2. Practical Assessment – skills using portable power tools (drills and sanding machines).	☐

The RDTHSC/Trainer will sign and date this form on completion.

RDTHSC/Trainer signature: _____

Date: _____

Delegate signature: _____

Date: _____

Please tick the individual requirements listed in the following sections to confirm your knowledge, skills and understanding, and that you have completed the Practical Assessments:

Assessment Task 1 Requirements Relating to <u>Portable Power Tools</u> – what you should know and understand:		
Hazards	Safe system of working (control measures)	
Entrapment/entanglement and hands in contact with the abrasive/sharp surface.	- Portable tools should be immobilised when changing drills, belts etc. - Correct guards should be fitted. - Long hair and clothing should be secured. - Dangling jewellery should be removed. - Gloves or bandages should not be worn. - An apron or work coat should be worn.	☐
Electric shock. Battery hazards.	- Battery-powered portable electric tools should be used if possible. Batteries should be charged, fitted, and disposed of in accordance with the manufacturer's instructions. - Portable electric tools should be single-purpose and robust, conforming to BS 2769. - Attachments should not be used. - Only double-insulated mains-fed portable electric tools should be used. - A residual current device (RCD) should protect mains sockets. - Portable electric tools should be fitted with the correct plug to match the socket outlet and correctly fused. Adapters must not be used. - Portable tools and supply leads should be visually examined before use. - A competent person should carry out inspections and tests at least every 12 months and records kept. - Portable tools should be securely and appropriately stored when not in use.	☐
Ejection.	- Eye protection should be used at all times. This should conform to EN ISO 16321:2022 'E' rating. (Existing eye protection BS EN 166:2002 1B can continue in use until 2029). - Non-users should be kept at a safe distance from the operation. - Chuck keys should only be used to tighten/loosen chucks and then kept safely away from the tool, sanding discs, belts, drills and bits etc.	☐
Inhalation of dust.	- Risk assessment should be completed to evaluate the risks to health. - LEV or respiratory protective equipment should be provided if required.	☐
Trailing cables.	The length of the supply lead must be kept to a minimum to avoid tripping.	☐
Noise.	- Risk assessment should be completed to evaluate noise levels. - Ear protection should be provided if required.	☐
Start-up torque, jamming.	Ensure the operator has sufficient strength to withstand the start-up movement of the portable tool, 'kick back' or turning movement if a tool becomes jammed.	☐
Flooring.	- Floor surface should not be slippery and should be kept free of loose items. - Suitable footwear should be worn. - See BS 4163:2021+A1:2022 Section 6 Working Area Environment.	☐
Lighting.	- Adequate lighting should be provided. - See BS 4163:2021+A1:2022 Section 6 Working Area Environment.	☐

Teaching Strategies

- It is essential that risk assessments are completed to cover the use of this machine by learners and colleagues. This will normally involve the adoption and adaptation of model risk assessments, e.g. BS 4163:2021+A1:2022.
- It is essential that a regular maintenance programme is put into operation and that a maintenance log is kept. This should involve daily, weekly and termly checks, covering general maintenance and identifying any faults that require repairs.
- Portable appliance tests (PAT) should be carried out at least every 12 months and records of inspections and test results should be kept.
- Local exhaust ventilation (LEV) systems should be cleaned at least weekly. The COSHH Regulations require that systems should be examined at least every 14 months and a record maintained of the efficiency of the system.
- Learners should be aware of the hazards associated with the equipment and the precautions that should be taken use.
- Before using the equipment, learners should be trained and assessed as competent, and a record of their training should be kept.
- Learners should be supervised at all times by a trained, competent person.
- Health and safety rules should be available and observed for all pieces of equipment.
- Demonstration of portable power tools to learners should include:
 - The position of all tool features, e.g. start/stop buttons.
 - The use of eye protection, and dust masks if required.
 - How to hold work securely.
 - The use of LEV.

Assessment Task 2 Practical Assessment –

what you should be able to demonstrate when using Portable Power Tools:



Demonstrate use of the following portable power tools as required, showing typical operations that would be undertaken in school/college workshops, i.e.:

- Portable drills.
- Portable sanding machines (orbital).
- Portable sanding machines (disc).
- Exemplar tasks suitable for training are detailed below. It is envisaged that following demonstration, trainees would complete a range of practical tasks using a variety of portable power tools, following a series of instructions such as those set out below.

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Portable drills

- Mark out a series of holes to be drilled, e.g. requiring the use of a flat bit and a twist drill.
- Secure an appropriate flat bit in the drill chuck, ensuring that the tool is unplugged.
- Secure the workpiece to the bench, using a piece of scrap material underneath.
- Select a suitable speed for the drill.
- Drill the holes.
- Unplug the drill.
- Change the flat bit for a twist drill and drill a further hole(s) in the workpiece.
- Unplug the drill and remove the twist drill.

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Portable sanding machines (orbital and disc)

- Practice using the sander(s) by cleaning up any exercises you have completed.
- Ensure that the sander is unplugged.
- Select and fit a suitable sanding sheet.
- Secure the workpiece to the bench.
- Hold the sander firmly, but do not apply excessive pressure. Generally, the weight of the tool is usually sufficient to sand the work efficiently. The orbital sander should be held flat on the workpiece, whilst the disc sander should be tilted slightly so that only one side of the disc is used.
- Switch off to assess the finish, and if necessary, change to a finer paper to produce a better finish. Always remember to unplug the sander before changing the paper.
- Unplug the sander when you have finished using it and remove the sanding sheet.

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Supplementary materials:

The following references provide additional notes and guidance to support training sessions:

<https://www.hse.gov.uk/woodworking/wis.htm>

<https://www.hse.gov.uk/woodworking/sanders.htm>

<https://www.hse.gov.uk/woodworking/index.htm>

<https://www.hse.gov.uk/pubns/books/l114.htm>

<https://www.hse.gov.uk/pubns/wis23.htm>