



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 sanding machines.	☐
2. Practical Assessment – skills using 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>Sanding Machines</u> – what you should know and understand:		
Hazards	Safe system of working (control measures)	
Entrapment/entanglement and hands in contact with the abrasive surface.	- Long hair and loose clothing should be secured. - Dangling jewellery should be removed. - Gloves or bandages should not be worn. - An apron or work coat should be worn. - Fixed guards (removable only with a tool) or interlocked guards must enclose drive mechanisms. - The gap between the table and belt should be sufficient to clear the debris but small enough to ensure sufficient support for the material. - For angled sanding, it should only be possible to tilt the table downwards away from the belt/disc, to avoid jamming material between the table and belt/disc. - Only the down-running quadrant of the sanding disc should be exposed. - Small pieces of material should not be used on the disc-sander.	☐
Dust/foreign bodies.	- Risk assessment completed to evaluate the risks to health and action required. - Effective LEV to COSHH regulations in place. - Metal or acrylic should not be finished on a disc or belt sander used for woodworking without cleaning the dust extraction system due to the risk of ignition in the extractor unit. - Suitable eye protection should be available near the machine. This should conform to EN ISO 16321:2022 'E' rating. (Existing eye protection BS EN 166:2002 1B can continue in use until 2029). - Eye protection stickers should be visible on the machine. - Eye protection should be worn at all times.	☐
Sanding belt/disc.	- Belt/disc should be examined before use. - Belt must be narrower than the belt support plate to protect the user from the belt edges. - Belt must be set in the correct direction of rotation.	☐
Electric shock/inadvertent starting of the machine.	The machine must have: - A means of electrical isolation. - Fused switch disconnecter. - Starter with overload protection and no-volt release. - Armoured cable to isolator. - A conveniently positioned control device that can quickly stop the machine in an emergency. - Machine must be electrically isolated before belt/disc maintenance is carried out.	☐
Lack of space around the machine.	- Sufficient space around the machine to prevent the operator being pushed by passers-by. - Machine should be securely fixed to the floor or workbench.	☐
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 a risk assessment is 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.
- Learners should be aware of the hazards associated with the equipment and the precautions that should be taken during use.
- Marking a "no finger zone" on the table of the machine should be taken into account.
- 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.
- Sanding machine health and safety rules should be available and observed.
- 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.
- Demonstration of sanding/finishing machines to learners should include:
 - The position of all controls, i.e. workshop emergency stop buttons, isolator switch, start button and emergency stop button on the machine.
 - The use of eye protection, and dust masks if required.
 - The use of LEV.
 - How to check the condition of the abrasive surfaces.
 - The correct position of tables, i.e. as close as possible and normally no greater than 2mm.
 - How to hold material being sanded, i.e. firmly on the machine table, keeping fingers behind workpiece to prevent contact with the abrasive surface.
 - The use of quadrant guards on disc sanders to ensure that work is always fed against the rotation of the sanding surface.
 - How to feed workpieces across the surface of the belt or disc for even wear and to prevent burning.
 - How to feed workpieces against the rotation of the bobbin.
 - Problems associated with using different materials, e.g. sanding wood and plastics.
 - When turning off the machines, never leaving them until they have come to a complete stop.
 - The operation of the machine by one student at a time.

Assessment Task 2 Practical Assessment –

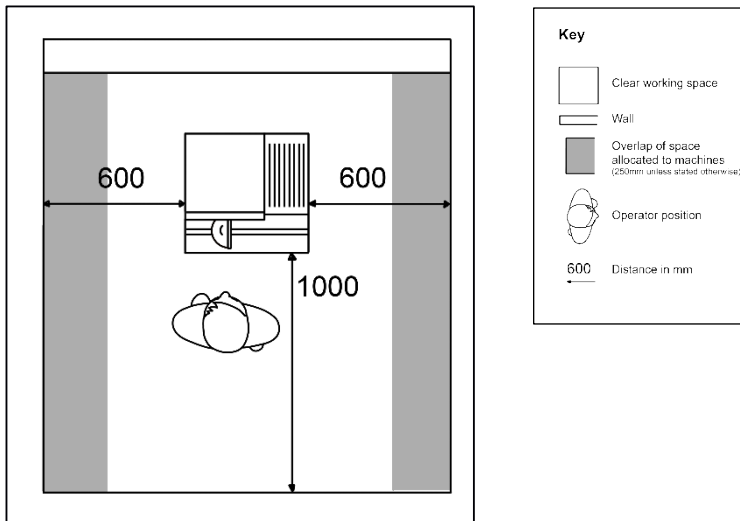
what you should be able to demonstrate when using Sanding Machines:



Finish a convex curve on the end of a piece of wood to a prepared line, to demonstrate: • Correct preparation of work for sanding, i.e. using a coping saw or fretsaw to saw within 2mm of the finished line. • Holding the workpiece firmly (and flat) on the table. • Moving the workpiece evenly to achieve a smooth curve.	☐
Finish a square end on a piece of wood to a prepared line, to demonstrate: • Correct preparation of work for sanding, i.e. using a tenon saw or fretsaw to saw within 2mm of the finished line. • Holding the workpiece firmly (and flat) on the table using a cross slide. • Moving the cross slide evenly to achieve a smooth finish.	☐
Finish a convex and concave curve on a piece of wood to a prepared line using a bobbin sander, to demonstrate: • Correct preparation of work for sanding, i.e. using a coping saw or fretsaw to saw within 2mm of the finished line. • Holding the workpiece firmly (and flat) on the table. • Moving the workpiece against the rotation of the bobbin evenly to achieve a smooth curve.	☐
Finish the edges of a piece of wood using a belt sander or finisher, to demonstrate: • Holding the workpiece firmly (and flat) on the table/against the fence. • Moving the workpiece evenly to achieve a square edge and smooth finish.	☐
Finish the faces of a piece of wood using a belt sander or finisher, to demonstrate: • Mounting the workpiece using double-sided tape onto a block to enable thin material to be safely sanded. • Moving the block and the workpiece evenly to achieve a smooth finish.	☐
Use an abrasive belt cleaner, to demonstrate: • Cleaning clogged up/resinous deposits from a belt/bobbin/disc.	☐

Supplementary materials:

The space-allocation diagrams indicate the clear working space required on either side of the machine. Where machines are next to another, dimensions can be overlapped, as indicated by the shaded zone on the diagram. Distances in front of the machine are assumed to adjoin circulation routes. A 200mm space has been allowed at the back of the machine for cleaning and maintenance.



Sanding machine (linisher)

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>