



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 polishing (buffing) machines.	☐
2. Practical Assessment – skills using polishing (buffing) 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>Polishing Machines</u> – what you should know and understand:		
Hazards	Safe system of working (control measures)	
Entrapment/entanglement.	- 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. - Workpieces should be held securely in the hands to avoid them being violently ejected from the machine. - Fixed guards (removable only with a tool) or interlocked guards must enclose the drive mechanism.	☐
Ejection.	- Suitable guards should protect the mop or brush. - The only gap in the guarding should be at the front to allow access for the workpiece. - Adjustable guards should protect spindle ends, adjusted so they are close to the mop/brush. - 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.	☐
Hot workpieces.	- Polishing does generate heat, but the risk of major burns is minimal. - Learners should not hold work with anything other than bare hands, i.e. no cloths or gloves.	☐
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 emergency stop button or other control device that can quickly stop the machine in an emergency.	☐
Sharp edges.	- Contact with the wheel and sharp edges can cause cuts. - Mops/brushes should be suitable for the material of the work and should be mounted so as not to come loose while in motion. - Protective gloves should be worn when changing wire brushes.	☐
Dust.	- A risk assessment should be carried out on dust inhalation at the machine, and LEV/PPE used as required. - Natural ventilation might be sufficient for the amount of polishing done in school, as dust concentrations should not exceed the WEL. - A nuisance dust mask should be worn in cases of prolonged use or if excessive amounts of dust or lint are being shed from a mop.	☐
Polishing compounds.	Hands should be washed thoroughly after using any polishing compound.	☐
Lack of space around the machine.	Sufficient space around the machine to prevent the operator being pushed by passers-by.	☐
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.
- 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.
- Polishing machine health and safety rules should be available and observed.
- Demonstration of polishing (buffing) machines to learners should include:
 - The position of all controls, i.e. workshop emergency stop buttons, isolator switch, start button and emergency foot stop button on machine.
 - The use of eye protection, apron/work coat and dust mask if required.
 - The use of LEV (where fitted).
 - Explanation of safety hazards (loose clothing, eye protection, sharp edges, overcrowding etc).
 - Selection and fitting of appropriate type of polishing mop.
 - How to check the condition of the mop/wire brush.
 - Recognise that polishing may produce the best surface finish if done in stages i.e. first stage/finishing stage.
 - Selection of appropriate polishing compounds and how to load the mop.
 - The correct positioning of the work when polishing/wire brushing, i.e. in the lower quadrant.
 - Correct stance to be adopted.
 - Ensuring learners work on their own and are not distracted or pushed by observers.
 - How to hold the workpiece i.e. firmly, keeping fingers behind workpiece to prevent contact with the mop/brush.
 - How to feed the workpiece across the surface of the mop/brush for even wear, to prevent over-heating and snatching.
 - Ensuring that when work is complete, learners turn off the machine and never walk away until the machine has come to a complete stop.

Assessment Task 2 Practical Assessment –

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



Demonstrate practical familiarity with:

- Procedure for isolating the machine, stop/start controls, use of emergency stops.
- Checking machine guards are properly positioned and secure, capable of containing debris and dislodged workpiece, and preventing entanglement.
- Danger points, e.g. never holding the workpiece on the top quadrant of the mop/brush.
- General environmental health risks and conditions.

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Demonstrate practical familiarity with:

- Use of correct PPE.
- Selection and fitting of appropriate type of polishing mop/wire brush, e.g. how to bore to fit taper spindles.
- Ensuring mops are only used to polish specific materials, selection and application of appropriate polish/buffing compound for the material being used.
- How to position and adjust all necessary guards.
- How to dress the mop/brush when worn unevenly.
- How to hold the workpiece, i.e. no gloves or cloths.
- Correct position of workpiece on the mop surface.
- Correct pressure to be applied to workpiece to avoid snatching and overheating.

☐

Undertake a range of polishing and wire brushing operations commonly undertaken in school workshops, to demonstrate correct practice, i.e.:

- Polish the surface and edges of plastics, e.g. acrylic.
- Polish the surface and edges of ferrous metals, e.g. BMS and stainless steel.
- Polish the surface and edges of non-ferrous metals, e.g. copper, brass.
- Wire brush to remove rust, oxides etc.

☐

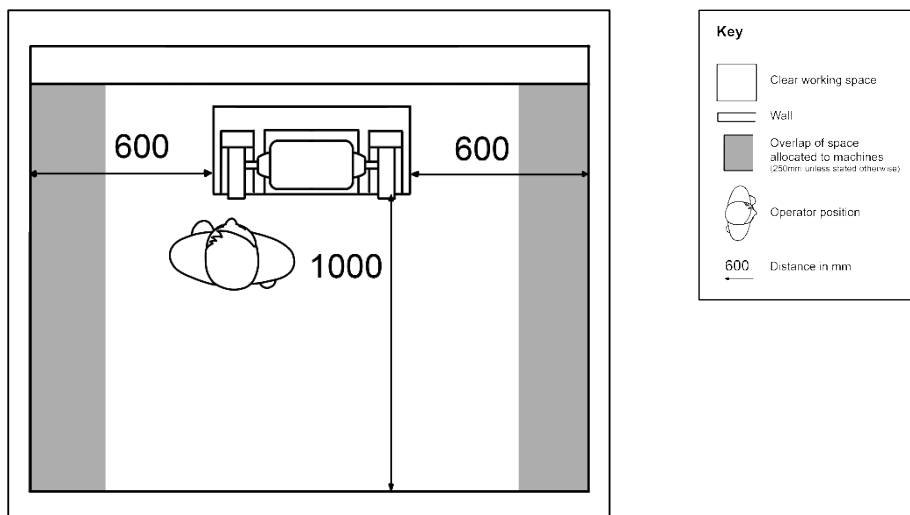
Discuss routine maintenance requirements, i.e.:

- The requirements recommended by the manufacturer.
- The identification of defects and reporting procedures.



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.



Double buffing machine

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

<https://hollisonupply.co.uk/product-category/lippert-unipol-compounds/>

<https://www.axminstertools.com/instantsearch/result/?q=polishing>

Type	Colour	Use on	Use for	Use with
Abramax	Grey	Steel/stainless steel	First stage polishing – minor imperfections	Stitched mop
Tripomax	Brown	Non-ferrous/plastics	First stage polishing	Stitched mop
Blumax	Blue	Non-ferrous/ferrous	Final glossing	50 fold loose mop
Chromax	Pink	Chrome/ferrous/non-ferrous	Very fine glossing	50 fold loose mop
Plastimax	Buff	Plastics and veneers	Glossing	50 fold loose mop
Starmax	Maroon	Soft non-ferrous, e.g. silver	Jewellers rouge high glossing	50 fold loose mop
Flexcut	Gold	Carving/turning tools	Stropping cutting edge	Leather wheel/strop