



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 mortiser machines.	☐
2. Practical Assessment – skills using mortiser 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>Mortiser 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. - Fixed guards (removable only with a tool) or interlocked guards must enclose drive mechanisms, and the chuck must be fully guarded. - The cutter should be guarded as far as possible on the specific machine.	☐
Type of machine.	Know that chain mortisers are not suitable for school use.	☐
Unsecure workpiece.	- Work should be clamped securely to the table, both vertically and horizontally. - Various clamping arrangements may be used, but all must be checked before starting to cut.	☐
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.	☐
Dust.	- A risk assessment must be completed to evaluate the risks to health and the action required. - 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.	☐
Tools.	- The chuck key must be removed before starting the machine and after the work is completed. - Drill bits and chisels should be ground and sharpened correctly. - The drill bit must match the chisel size. - The drill bit must be secured in the correct position in relation to the chisel. - The depth stop must be locked in position.	☐
Position/space around the machine.	- The machine should be securely fixed to the floor or workbench. - Ensure enough space available to secure long lengths of timber to the worktable without obstructing walkways.	☐
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.
- 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.
- Before using the equipment, learners should be trained and assessed as competent, and a record of their training kept.
- Learners should be supervised at all times by a trained, competent person.
- Mortise machine health and safety rules should be available and observed.
- Demonstration of drilling machines to learners should include:
 - The position of all controls, i.e. workshop emergency stop buttons, isolator switch and start and emergency stop buttons on machine.
 - The use of eye protection, and dust masks if required.
 - The operation of the machine by one student at a time.
 - Ensuring adequate space for the operation, depending on the size of timber being used.
 - How to mark out joints using the correct tools.
 - The choice of drill bit and hollow chisel.
 - Selection of the correct spindle speed for chisel size and type of timber.
 - How to fit the bit and chisel correctly.
 - Safe removal of the chuck key.
 - Secure clamping and alignment of the workpiece.
 - Setting and locking of the depth stop.
 - Correct procedure for cutting stopped/through mortises.

Assessment Task 2 Practical Assessment –

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



Prepare a mortise for machining, to demonstrate: • Marking out using a mortise gauge set to the chosen chisel	☐
Prepare a mortiser for use, to demonstrate: • Fitting the auger bit and chisel into the machine, i.e. correct alignment of the chisel, using a spacer to set the correct clearance between the cutting edge of the auger and the base of the chisel to ensure that the auger leads the chisel into the wood, setting the depth stop, clamping and alignment of the workpiece.	☐
Machine a mortise, to demonstrate: • Correct procedure for cutting both stopped and through mortises.	☐
Know how to sharpen a chisel and auger: • Use of a mortise chisel sharpener. • Use of a needle file to sharpen the auger.	☐

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/index.htm>

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

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