

Forename: _____ Surname: _____

School / College/ Institution _____

Course date: / / RDTHSC: _____

Colleagues must demonstrate their theoretical and practical knowledge, skills and understanding of the use of sanding and finishing machines in school workshops by completing the following assessment tasks

Please tick in the appropriate column to confirm your knowledge and understanding and that you have completed the practical tasks set

Assessment Task 1 Hazards and Control Measures

Hazards	Safe system of working (control measures)	Tick
Entrapment/hands in contact with abrasive surface	<ul style="list-style-type: none"> Long hair and clothing secured Dangling jewellery removed Gloves or bandages should not be worn 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 Small pieces of material should not be disc sanded 	<input type="checkbox"/>
Dust/foreign bodies	<ul style="list-style-type: none"> Risk assessment completed to evaluate the risks to health and action required Effective LEV to COSHH regulations in place Suitable eye protection available near to machine Eye protection stickers on machine Eye protection in use at all times Metal or acrylic should not be finished on a disc or belt sander used for woodworking without cleaning the dust extraction system. The resultant sparks from metal and the high temperature generated in acrylic dust could ignite wood dust contained in the dust extractor unit 	<input type="checkbox"/>
Electric shock	<p>The machines must have:</p> <ul style="list-style-type: none"> 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 	<input type="checkbox"/>
Sanding belt/disc	<ul style="list-style-type: none"> Belt/disc should be examined before use Belt must be narrower than the belt support plate to protect user from the belt edges Belt must be set in correct direction of rotation 	<input type="checkbox"/>
Rotating parts of machinery	<ul style="list-style-type: none"> Fixed guards (removable only with a tool) or interlocked guards must enclose drive mechanisms Only down-running quadrant of sanding disc should be exposed 	<input type="checkbox"/>
Position/space around machine	<ul style="list-style-type: none"> Machine should be securely fixed to the floor or workbench 	<input type="checkbox"/>
Flooring	<ul style="list-style-type: none"> See BS4163: 2014 Section 6 Working Area Environment 	<input type="checkbox"/>
Lighting	<ul style="list-style-type: none"> See BS4163: 2014 Section 6 Working Area Environment 	<input type="checkbox"/>

Teaching Strategies

- It is essential that risk assessments are completed to cover the use of these machines by learners and colleagues. This will normally involve the adoption and adaptation of model risk assessments, e.g. BS4163: 2014
- 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
- 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 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 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

Demonstration of sanding/linishing 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 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
- The use of eye protection, and dust masks if required
- How to hold material being sanded, i.e. firmly on the machine table, keeping fingers behind work piece 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 work pieces across the surface of the belt or disc for even wear and to prevent burning
- How to feed work pieces against the rotation of the bobbin
- The operation of the machines by 1 student at a time
- 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



Assessment Task 2

Practical Skills

Machine operation:

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 work piece firmly on the table
- Moving work piece 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 work piece firmly on the table using a cross slide
- Moving 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 work piece firmly on the table
- Moving work piece 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 linisher, to demonstrate:

- Holding work piece firmly on the table/against the fence
- Moving the work piece evenly to achieve a square edge and smooth finish



Finish the faces of a piece of wood using a belt sander or linisher, to demonstrate:

- Mounting work piece using double sided tape on to a block to enable thin material to be safely sanded
- Moving block and the work piece evenly to achieve a smooth finish



Use an abrasive belt cleaner, to demonstrate:

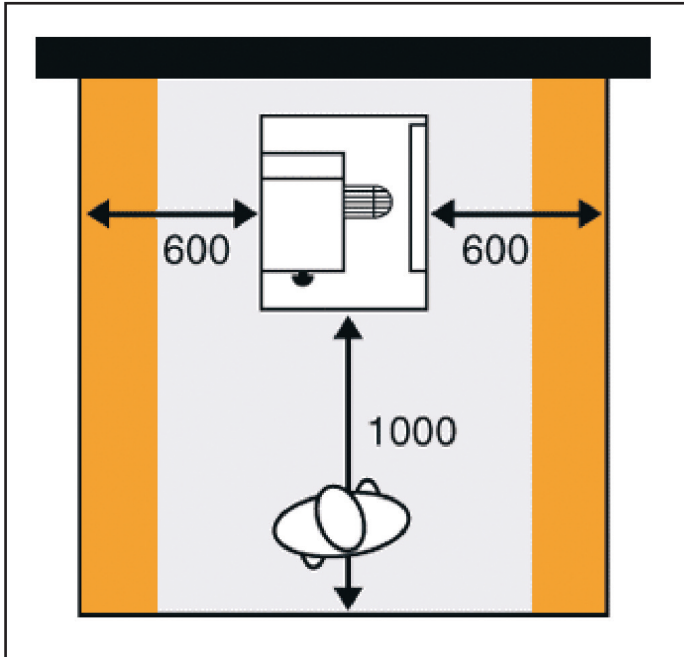
- Cleaning clogged up/resinous deposits from a belt/bobbin/disc



Supplementary materials

The space-allocation diagram indicates the clear working space required on either side of the machine. Where machines are next to one 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:

<http://www.coshh-essentials.org.uk/assets/live/WD06.pdf>

Hyperlink to the HSE publication 'Woodwork control guidance sheet WD06'. Guidance on the use of sanding machines, with particular reference to the use of respiratory protective equipment (RPE)

<http://www.hse.gov.uk/pubns/woodindx.htm>

Hyperlink to a series of HSE leaflets, all available as PDF files. Guidance on a range of issues relating to the collection of dust from woodworking machinery and the retrofitting of braking, i.e.

'Wood dust: hazards and precautions' – woodworking information sheet 1

'COSHH and the woodworking industries' – woodworking information sheet 6

'Selection of respiratory protective equipment suitable for use with wood dust' – woodworking information sheet 14

'LEV: general principles of system design' – woodworking information sheet 23

'LEV: dust capture at fixed belt sanding machines' – woodworking information sheet 25

'LEV: dust capture at fixed drum and disc sanding machines' – woodworking information sheet 26

'Toxic woods' – woodworking information sheet 30

'Safe collection of woodwaste: prevention of fire and explosion' – woodworking information sheet 32

'PUWER 98: retrofitting of braking to woodworking machines' – woodworking information sheet 38