Technology: Risk Assessment Title: **Bobbin/Oscillating Sander** AUGUST2016

**This is a generic Risk Assessment that must be modified to suit your place of work**. The Risk Assessment modifications should take into consideration the activity, age/stage/pupil ability, department/working environment and the experience of the teacher in charge. If Control Measures Required as described are implemented the risk is reduced to an acceptable level for mainstream students.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Identify the Hazards** | **Who is at Risk?** | **What is the Harm?** | **Activity Taking Place** | **Control Measures Required** | **Additional Information** |
| **Employees should be made aware of the following hazards.**  1. Jamming Work Piece  2. Hand, Hair, Jewellery or  Clothing Entanglement  3. Inhalation of Wood Dust  4. Inadvertent Starting  5. Breaking Abrasive  Bobbin Sleeve  6. Skin Contact  7. Finger Trap  8. Ejected Materials  9. Electrical Safety  10. Falling Machine  11. Noise Levels  12. Spindle Lock  Nut/Washer  13. Wrench Removal  14. Unauthorised Used  15. Lack of Maintenance  16. Falling on Slippery Floor  17. Hazardous Wood  18. Fire Risk  19. Inadequate Lighting  20. Explosive Atmospheres  21. Operator Distraction  22. Rain or Wet Conditions  23. On/Off Switch  24. Nails or Foreign Objects  25. Replacement Parts  26. Sanding Painted Surfaces | Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  User  Technician  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technology teacher, technicians and students  Technician  Technology teacher, technicians and students | **The work piece, which can become jammed in the sanding machine.**  **Hands, hair, Jewellery or Clothing can become entangled with moving parts.**  **Wood dust can be inhaled.**  **Inadvertent starting increases the risk of physical injury.**  **The sleeve can break up and lash up.**  **Hands and fingers can come into contact with the abrasive surface.**  **Fingers can become trapped whilst changing table inserts and abrasive bobbin sleeves.**  **Wood can be ejected towards the user when in contact with an abrasive bobbin sleeve.**  **Attention to electrical safety procedures reduces the risk of electric shock.**  **The weight of the machine can cause significant physical injury if it falls on the user.**  **The noise of the machine after continued use can affect the users hearing.**  **Failing to secure the spindle lock nut and washer risks them being ejected during use.**  **Failing to remove the wrench can potentially lead to serious injury.**  **Unauthorised user.**  **Regular maintenance is required to keep the machine safe for use.**  **Slippery floor surfaces or loose items around the machine can cause slips that result in contact with moving parts.**  **Hazardous wood can cause sensitisation and respiratory problems for the user.**  **Continuous sanding of wood could lead to a fire risk in extreme situations.**  **Inadequate lighting increases the risk of skin contact with the sanding sleeves.**  **Manufacturer’s instructions warn the machine is not to be used in explosive atmosphere.**  **Distraction of the user increases the risk of potential injury.**  **The machine should not be used outside in the rain or in wet atmosphere conditions.**  **The on/off switch must be within easy reach of the user at all times.**  **Nails or foreign objects increase the risk of user injury.**  **Replacement parts used should be approved by the manufacturer.**  **Sanding painted wooden products increases the risk of respiratory sensitisation or poisoning of the user/others nearby.** | Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood  Sanding Wood | The sanding table should be of rigid metal construction. On bobbin machines, there should be as small a gap as possible between the table insert and the sanding sleeve.  Long hair and loose clothing should be secured so as to not to come into contact with moving parts. Jewellery should be removed.  Where LEV or HEPA extraction is available it should be used when operating this machine. If manufacturer’s instructions recommend the wearing of a dust mask, then this must be provided. If no LEV is available then a dust mask conforming to BS EN 149:2001+A1:2009 class FFP3 should be used.  The machine should be powered off when not in use to remove the risk of inadvertent starting. Disconnect the plug from the power source before making any adjustments or changing abrasive bobbin sleeves.  A minimum of BS EN 166:2002 1F low energy impact glasses must be worn when using this machine. Abrasive bobbin sleeves should be examined regularly and torn bobbins should be discarded.  Students should be shown safe use of this machine by the supervising Technology teacher or technician before use. Consideration should be given to marking a “no finger zone” on the table of the machine.  Only supervising Technology teachers and technicians should change abrasive bobbin sleeves prior to use by students.  Support the workpiece by holding it with both hands on the table, where possible. Ensure that models are correctly glued or fixed together before sanding. Do not sand multiples on this machine.  Use double insulated machines for additional protection. Plugs and cables must be regularly inspected for any signs of damage. Damaged plugs or cables require the machines immediate removal from use and should be submitted for repair. Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.  The machine should be provided with a means of electrical isolation using a fused isolating switch on or adjacent to the machine, and that it is controlled by a starter incorporating overload protection and no-volt release.  The machine should also be provided with a conveniently positioned and accessible, emergency stop switch (which could be the normal “off” switch or other suitable control device that can quickly stop the machine in an emergency.  The drive mechanisms of the machine should be enclosed within the body of the machine.  The machine should be included a planned maintenance programme that should include electrical safety tests.  The machine should be secured on a flat surface. If holes for securing bolts are available they can be used to secure the machine to a work bench, trolley (with lockable wheels) or sheet of timber.  If additional securing is required, G-clamps can be used between the machine body and the flat timber surface.  Ear protection PPE should be used due the elevated noise of the machine and its position in front of the user.    After changing the table insert, sanding sleeve and rubber drum the washer and spindle lock nut should be secured, but not over tightened. Changing the table insert, sanding sleeve and rubber drum should be done by the supervising Technology teacher or technician.  The wrench must be removed after tightening the spindle lock nut. Tightening the spindle lock nut should be done by the supervising Technology teacher or technician.  The machine should be isolated when not in use.  The machine must be part of a regular department maintenance programme.  The floor surface should not be slippery and should be kept free of loose items and wood shavings/dust.  Only known woods appropriate for sanding should be used on this machine. Metals and plastics must not be used on this machine.  The machine should only be used for sanding. Removal of large sections of wood should be complete by cutting or other appropriate methods.  Adequate lighting should be available within the workshop for machine use. For more information refer to Working Area Environment (page 19) BS 4163:2014  The machine should only be used in appropriate school workshops. Do not sand metal. Sanding metal will cause sparks that may ignite wood and dust particles on the sander or in the workshop.  The operator should be working in an area clear from distraction with adequate working space.  Do not wet sand or use in wet conditions.  The on/off switch should be tested before using this machine to ensure prompt stoppage within 10 seconds.  Only wood which is free from nails, staples or foreign objects should be used with this machine.  Parts which have become worn or damaged must be removed or replaced immediately. Manufacturer’s details should be kept for future reference when seeking spares.  Departments must decide for themselves whether or not sanding of painted models is allowed within the department. | Reference BS 4163:2014  Manufacturer’s instruction guide should be followed and kept within the department for future reference.  Adequate PPE and Respiratory protection should be provided for each user.  SSERC recommends all machines being connected to a workshop hardwired power system.  The machine should be allowed to stop before removing the work piece. Always keep fingers and hands away from the sanding sleeves.  SANDING LEAD-BASED PAINT SHOULD NOT BE DONE IN SCHOOLS. |
|  |  |  |  |  |  |