| MRAT 083 | **Belt, bobbin and disc wood sanders** | **Applicable to:** vertical and horizontal belt sanders; disc and combined machines; bobbin sanders | **See also:** 071 |
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| **Process(es) covered:** | The use of bench or pedestal machines to finish wood components, for which only light pressure is required, principally on end grain. Bobbin sanders consist of a cylindrical sanding bobbin mounted in the centre of a supporting table and which rises and falls as it rotates. Different sizes of bobbin are available. | | |

## Control Measures

- Wear eye protection. Tie back long hair, remove or cover jewellery and cover loose clothing with a secure apron or overall.
- To minimise the trapping risk, enclose the drive mechanisms and set fences correctly. On a disc sanding machine, the upward turning part of the sanding disc should be covered by a suitable quadrant guard. For sanding an angle edge, the table must be inclined downwards away from the sanding surface.
- Check the position of the support table at regular intervals and the gap between the table and the disc or belt should be as small as possible, normally not more than 3 mm.
- Frequently check the setting of rests to ensure that they are as close to the abrasive as possible.
- Always fit belts so they rotate in the correct direction.
- Instruct users on the level of pressure requires to the workplace in order to avoid creating flying objects.
- A suitable LEV system must be fitted and must always be used.
- Sanding machines are categorised as 'high-risk wood-working machines'. This means that pupils and young persons (ie, anyone under 18) should not use them unsupervised **unless** they have the necessary maturity and competence. During training, they may use the machines but must be adequately supervised. After training, adequate supervision must still be provided if the young person is not sufficiently mature.
- Neither metal nor acrylic material should be finished on a disc or belt sander used for wood-working. The resultant sparks from metal, and the high temperature generated in acrylic dust, could ignite wood dust contained in the dust extractor unit.
- Restrict the size of the material that may be sanded. As a general rule, material that is smaller than 40 mm square would be considered too small to be sanded on a disc machine.

## Immediate Remedial Measures:

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| Dust is in the eye | Irrigate immediately with water for several minutes, telling the casualty to hold eyelids apart. |
| A particle could be in the eye | Tell the casualty not to rub the eye, sit him/her down facing the light with the head leaning back. Stand behind the casualty to look for the particle in the eye. If it is over the iris or pupil, DO NOT ATTEMPT TO MOVE IT. Tell the casualty to hold a gauze pad over the eye and close the other one. Send for an ambulance to take the casualty to hospital.<br>If the particle is visible over the white of the eye, the corner of a moistened handkerchief can be used to remove it. Call 111 and seek medical attention. |
| Injury to the eye | If there is any sign of injury to the eye, tell the casualty to hold a gauze pad over the eye and close the other one. Take the casualty to hospital as quickly as possible. |
| Severe cuts | Apply pressure on or as close to the cut as possible, using fingers or a pad of cloth. Leave any embedded large bodies and press round them. Lower the casualty to the floor and raise the wound as high as possible. Protect yourself from contamination by blood. |

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| **Storage** | |


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## Risk Assessment

### Hazards:

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| Trapping<br>Flying objects<br>User injury<br>Entanglement<br>Dust | Fingers or material can become trapped between the belt and drive pulleys or between the sanding surface and a fence, or between the bobbin and the table.<br>Workpieces can be thrown violently if not held correctly or if the machine starts unexpectedly. Torn belts or discs can be ejected violently.<br>Human contact with moving or rotating parts can cause cuts or abrasions and particles from the sanding process can enter the eye. If the support table is not correctly set there is a high risk of the material being sanded being dragged into the gap between the table and the disc or belt.<br>Long hair, dangling jewellery or loose clothing can become entangled with rotating parts, dragging the user onto them.<br>See 071. |

### Risks:

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| Trapping | Inadequate guards cause an increased risk. |
| Flying objects | Workpieces are usually held in the hand, often against a fence or rest, allowing the pressure on the belt or disc to be released quickly. This risk is small provided that the rest correctly set. |
| User injury | If guards are positioned to enclose those moving or rotating parts that are not being used, the risk is reduced but in some applications this is difficult. This risk must be reassessed for each application. |
| Entanglement | Entanglement is likely to occur if rotating parts are exposed. |
| Dust | Fine dust will be produced when sanding. |

### Further Information:

- Disc sanding machines should be fitted with a quadrant guard that will cover the upward turning part of the sanding disc. This guard **must not** be removed to allow the sanding of large work pieces. When sanding wood and particle boards, the machines should be fitted with dust collection equipment which is powered when the sander is started. In the event of a breakdown of the dust collector, this unit must not be by-passed electrically to allow continued use of the sander; it must be repaired. For details of dust control systems see CLEAPSS guide L225, *Local Exhaust Ventilation in Design and Technology*.


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