

ROOM: 49

MACHINE OPERATION: COMBINED GRINDER/POLISHING MACHINE



HAZARDS:

- Long hair, loose clothing etc., can become entangled in moving parts
- Work pieces, chuck keys, broken cutting tools, swarf, etc., can be violently ejected
- Lathes can present a hazard of electric shock
- Closing movements between parts under power can be a trapping hazard
- Sharp edges on tools, work pieces and swarf can cause cuts
- Contact with cutting fluids, oil and grease can irritate
- Swarf can jam or be ejected if allowed to build up
- Inadvertent starting of the machine
- Lack of space around the machine can lead to operator being pushed by passers by
- Slippery floors surfaces or loose items around the machine can cause slips and trips resulting in contact with moving parts
- Manual handling of heavy equipment (e.g. chucks, faceplates work pieces) can present a hazard.

CONTROL MEASURES – SPECIFIC:

POLISHER

- The machine is power isolator either on or adjacent to the machine and be controlled by a starter incorporating overload protection and no-volt release. The machine is fitted with a foot stop.
- The pulley drive and gear is guarded totally. A tool-operated locking device must be provided to all access covers. The spindle end and the threaded mandrel must be guarded. In the absence of a fixed sleeve guard provided with the machine, a loose sleeve-type guard should be used. The unprotected end of the spindle must also be covered. Care should be exercised in holding the work and where to apply the work to the wheel. The wheel should revolve so that the top moves towards the operator and the work applied in the nearer lower quarter of the wheel. The work must not be gripped on the inside but held firmly on the outside. Full-stitched mops should be used where practicable. Wires, chains and linked pieces must not be polished on a revolving mop.

GRINDER

- Bench or pedestal grinding machines **must not be used** by pupils
- The machine is provided with a power isolator either on or adjacent to the machine and controlled by a starter incorporating overload protection and no-volt release. The machine is fitted with a knee or foot stop.
- The pulley drive and gear must be totally guarded. A tool-operated locking device must be provided to all access covers and guards. The transparent screens should be adjusted correctly and provide good vision. Tool rests must be properly adjusted and secured as close as practicable to the exposed part of the abrasive wheel, no more than 3mm. Except for the operating section, the rest of the abrasive wheel must be totally enclosed.

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- The wheel must be checked for cracks and be properly dressed. Grinding on the side of the wheel must always be avoided. The maximum permissible speed must be marked on each abrasive wheel and a notice specifying maximum spindle speed must be fixed to each machine.
 - Abrasive wheels **must** only be changed by teachers or technicians who have attended an approved training course on the mounting of abrasive wheels and who have been appointed by the premises to change wheels. The names of persons so appointed should be posted in the workshop. In the absence of such a person, wheels should be changed by an external competent person.

CONTROL MEASURES – GENERAL:

- The machine is provided with a power isolator adjacent to the machine and is controlled by a starter incorporating overload protection and no-volt release. The machine has a securely fitted emergency foot stop.
- The pulley drive and gear is totally guarded. A tool-operated locking device must be provided to all access covers. The drill, chuck and spindle must be guarded by a self-adjusting guard which must be positively locked when in the operating position.
- Eye protection conforming to BS2092-1 must be used at all times. Loose clothing must be secured; long hair tied back and substantial footwear worn to minimise risk of injury if the material or chuck falls.
- Sufficient space should exist around the machine to prevent accidental contact with passers by.

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