

## Portable electrical equipment – angle grinder

Portable electrical equipment such as hand-held angle grinders have high speed discs designed to cut or grind steel. Different disc types are required for the tasks of cutting and grinding.

A hand-held angle grinder must have a guard for the disc and a side handle. Due to the potential for kick-back or sudden sideways movement, two handed operation is always required.

### The incident

At the time of the incident student A was operating a hand-held angle grinder and turned in response to another student B. This resulted in student B sustaining an injury to their forearm that required medical attention.

### The hazards

Operating portable equipment such as angle grinders has a number of hazards that the operator and others within the workshop are to be aware of. These include:

- discs shattering or exploding, sending pieces at high speed across the workshop
- metal fragments/particles from the cutting or grinding process
- impact/contact with disc
- sharp edges and burrs associated with work materials
- unsecured jobs
- electrical hazard from damage to leads.

### Recommended controls

Schools should review their current processes and ensure the following:

- A process for regular inspections of all angle grinders for:
  - correctly fitted guard and handle
  - worn or damaged disc
  - damage to electrical lead or plug
  - correctly fitted disc which is suited to the task i.e. cutting/grinding.
- Fixed or portable electrical equipment such as angle grinders are only used on circuits protected by an electrical safety switch (RCD).
- SOPs (safety operating procedures) are available and used by staff and students. A SOP (safety operating procedure) for hand-held angle grinders is available [here](#).
- Students are instructed on the safe use and operation of portable electrical equipment prior to using this equipment. Maintain records of students inducted on this equipment and have been permitted to use angle grinders.
- Equipment maintenance and inspection programs includes all portable electrical equipment. Maintain records of Maintenance checklists should include issues identified in the manufacturer's 'owner's manual and operating procedures'.
- Examples of equipment maintenance checklists are [here](#).