

# Safeguard

## Plant and Machinery Angle grinders



Government  
of South Australia

SafeWork SA

### Objective

To provide guidance on minimising risks associated with the use of angle grinders.

### Background

Angle grinders can be a dangerous power tool. Kickbacks can result in severe cuts. Discs can shatter or disintegrate producing fragments which may become lodged in the operator's eyes or other parts of the body.

### Risk control measures

- Consider whether an angle grinder is actually the best tool to perform the task, because another tool may be just as, or even more, effective.
- When purchasing a grinder, choose one with adjustable handles that can be moved to suit both left and right-handed operators.
- Choose a grinder that has an automatic cut-off or dead-man switch as part of the handgrip. This is designed to cut off power as soon as finger pressure is released. Automatic cut-off switches may not be available on smaller models and may not be practicable for certain tasks.
- Do not use a grinder that is larger, heavier or more powerful than is necessary, as it is much easier to control a lighter tool.
- Guards must not be removed. The guard should cover half of the disc and be positioned between the disc and the operator.
- Ensure that the correct type of disc is used for the task being performed. The wrong disc could shatter or 'grab' the work piece causing kickback.
- When using a grinder fitted with a cutting disc, keep the depth of cut to no more than double the disc thickness and avoid plunging the disc too far through the work piece.
- Provide operators with training and instruction in safe work procedures for angle grinders.

### Before use

Before using an angle grinder, ensure that:

- the guard and handles are secure
- the correct flange and locking nut is in place for the type of disc being used (otherwise the disc can shatter at high speed)
- there are no defects or damage to the disc (a disc which has been dropped may have developed cracks and should not be used).

### During use

Follow these suggested safe practices when an angle grinder is in use:

- Use two hands to operate the grinder. One hand should grip the handle and dead-man switch (if provided), while the other hand supports the weight of the tool.
- Allow the grinder to 'run up' to operating speed before applying it to the job.
- Hold the grinder against the work piece with minimum pressure, so the disc does not 'grab' and cause it to kickback.
- Never bump the grinder onto the object, or let the disc hit any other object while grinding.
- Keep the grinding disc at a 15 to 30 degree angle to the object. Ensure the work piece is held firmly, either as part of a larger item or in a bench vice.
- Where possible, keep the work at waist height during grinding.
- Adopt a comfortable stance with feet apart so you feel well-balanced, and ensure you have a clear view of the job.
- Never use a grinder between your legs while sitting on the floor.
- Stop at regular intervals for a short break to rest your hands and arms.
- Never put a grinder down until the disc stops rotating.
- Remove the plug from the power point before changing discs.

- Never use a cutting disc for grinding or a grinding disc for cutting.
- When not in use, disconnect the power and place the grinder on a bench with the disc facing upwards.

### Personal protective equipment

It is recommended that you use appropriate Personal Protective Equipment (PPE), including:

- wide vision goggles, safety glasses or a face shield
- ear muffs or ear plugs
- safety boots with steel toecaps
- overalls or other fitted clothing
- well-fitted gloves that allow a good grip of the tool.

### Other considerations

- One-on-one supervision needs to be provided for workers receiving training in the use of angle grinders or people who are unfamiliar with their use.
- Use welding screens to stop other workers being hit by flying particles and sparks.
- Ensure all workers maintain a safe distance from any person who is in the process of grinding.
- Ensure all grinders are regularly checked for electrical safety and that all defects are repaired by a competent person.

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