

# Safety Facts: Angle Grinder\*



An angle grinder is a device with a rotating abrasive disc, used to grind, polish, or cut metal and other materials depending on the disc installed. They are typically used during metal fabrication and construction-type of work.

## Key characteristics of an angle grinder

Angle grinders are typically air or electrically operated. The horsepower (HP) rating and the revolutions per minute (RPM) can vary depending on the size of the angle grinder. The discs used on an angle grinder can typically range from 4 to 9 inch in diameter.

On some models, the switch to operate the angle grinder can be set in the “locked on” position. This can help reduce strain by not having to hold the switch on during prolonged usage.

Typically, the angle grinder is equipped with a side handle that can be installed when required. This side handle makes it easier to control and use the grinder with two hands.



## Why is it important?

While an angle grinder is helpful to grind, polish and cut material, if used incorrectly, it can lead to a wide range of injuries. The internet is full of pictures of grinder discs that shattered into pieces that flew into various body parts e.g., facial cheek, eyes, etc.

Sparks from the angle grinder can also cause fires and act as an ignition source in an explosive type of environment.

## Associated risks/hazards

These are few associated hazards with using an angle grinder:

- Flying particles and particulates caused by grinding, polishing, etc. impacting your body and being inhaled into your respiratory system
- Vibration leading to muscle strain
- Exploding disc
- Noise ranging from 91 to 103dBA
- Contacting the sharp edges of the rotating disc causing lacerations
- When placed on a surface with disc side down and disc spinning causing the grinder to move on its own

- Contact with electrical energy potentially causing electrical shock
- Tripping hazard caused by electrical cord or air hose

## Preventive next steps

- Be trained and authorized before using an angle grinder as per Occupational Health and Safety Regulation (OHSR) Section 4.10
- Read and follow the manufacturer’s instructions before using an angle grinder
- Always inspect the grinder and its disc before using it
- Make sure the disc rating meets the RPM rating of the angle grinder
- When possible, install the side handle and use the angle grinder with two hands
- Never remove a guard from an angle grinder
- Wear the appropriate personal protective equipment (PPE) depending on the hazards of the grinder, e.g., noise, vibration, flying particles, etc.
- Perform a musculoskeletal injury (MSI) risk assessment as per OHSR 4.48 if you must use an angle grinder for over 2 hours per day. You want to ensure that any vibration exposure does not exceed the limits described in OHSR Section 7.11



## For additional resources visit:

[OHSR Part 4.10, 4.48 and 7.11](#)

[MSI Risk Assessment Worksheet](#) WorkSafeBC

[Use of Portable Grinders](#) CCOHS website

[Grinders: What’s the Right Eye Protection?](#) video WorkSafeBC

