

Use of Portable Grinders Fact Sheets



WHAT SAFETY PRECAUTIONS SHOULD YOU FOLLOW WHEN USING A PORTABLE GRINDER?

- Guards must be provided and adjusted properly as per the manufacturers manual to protect you. Replace damaged guards because if an abrasive wheel breaks while rotating, it can cause a serious injury.
- Before use, check the manufacturer's stated running speeds, or markings on the grinder, and grinder wheel for the maximum speed that it can be used.
- Follow manufacturer's manual for the safe use of grinder wheel guards.
- Clean and service grinders according to manufacturers' recommendations. Record all maintenance for grinders.
- Ensure that a machine will not operate when unattended by checking the dead-man (constant pressure) switch.
- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles) to protect against flying particles. Gloves, aprons, metatarsal safety boots, hearing protection, and respiratory protection may be required, depending on the work.
- Ensure the floor around the work area is clean.
- Do not use wheels that are cracked or those that excessively vibrate.
- Do not operate grinder on wet floors.
- Use both hands when holding the grinder.
- Keep the power cord away from the grinding wheel and the material being ground.
- When required, have a hot work permit before use.
- Make sure the work area is clear of flammable materials and that combustible dust is not allowed to accumulate.

When and how should you check the speed of the wheel?

- The maximum speed in revolutions per minute (RPM) is marked on every wheel. Never exceed this speed.
- Check that the wheel speed marked on the wheel is equal to or greater than the maximum speed of the grinder.
- Measure the speed of any new machine. Take several readings.
- Measure the speed of governor-controlled air-driven grinders after twenty hours of use or every week, whichever comes first. Measure the speed after any repairs.
- Measure the speed of electrically driven grinders monthly and after repairs.

What should you do when using portable grinders?

- Check that grinders do not vibrate or operate roughly.
- Hold grinders as follows:
 - Horizontal grinder – the full grinding face width of the wheel is in

- contact with the grinding surface.
 - Right-angle grinder – the grinding face of the wheel or disc is at an angle of between 5 and 15 degrees from the grinding surface.
 - Vertical grinder – the grinding wheel face is in contact with the surface.
- Use racks or hooks to store portable grinders.
 - Stand away from the wheel when starting grinders. Warn co-workers to do the same.
 - Inspect all wheels for cracks and defects before mounting.
 - Perform a “ring test” to check if the wheel is damaged. Ring tests do not apply to small wheels that are 10 cm (4 in.) in diameter or smaller.
 - Ensure that the mounting flange surfaces are clean and flat.
 - Ensure the wheel guard is in place while operating the grinder.
 - Use the mounting blotters supplied.
 - Run newly mounted wheels at operating speed for 1 minute before grinding.
 - Wear appropriate eye, ear and face protection. Use other personal protective equipment or clothing, as required under the circumstances.
 - Use an appropriate ventilation exhaust system to reduce inhalation of dusts, debris, and coolant mists. Exhaust systems must be designed and maintained appropriately.

Refer to Abrasive Wheels for further information.

What should you avoid when using portable grinders?

- Do not use grinders near flammable materials.
- Do not clamp portable grinders in a vise for grinding hand-held work.
- Do not use any liquid coolants with portable grinders.
- Do not force wheels onto a grinder that is the wrong size or change mounting hole sizes.
- Do not tighten the mounting nut excessively.
- Do not put the grinder on the floor or working surface until the wheel has stopped turning.
- Do not use a wheel with a maximum RPM that is lower than the RPM rating of the grinder.
- Do not keep any materials close to the grinding wheel when it is not in use.
- Do not wear loose clothing or dangling jewellery as they may get caught in the moving parts of the grinder. If you have long hair, keep it tied back.

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