

# Abrasive wheels

Portable abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments. Abrasive wheel tools must be equipped with guards that:

1. Cover the spindle end, nut, and flange projections;
2. Maintain proper alignment with the wheel; and
3. Do not exceed the strength of the fastenings.

## Inspect the wheel

Before an abrasive wheel is mounted, it must be inspected closely for damage and should be sound- or ring-tested to ensure that it is free from cracks or defects. To test, wheels should be tapped gently with a light, non-metallic instrument. If the wheels sound cracked or dead, they must not be used because they could fly apart in operation. A stable and undamaged wheel, when tapped, will give a clear metallic tone or “ring”.

## Wheel maintenance

To prevent an abrasive wheel from cracking, it must fit freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Always follow the manufacturer’s recommendations. Take care to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

## Operating the wheel

An abrasive wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The employee should never stand in the plane of rotation of the wheel as it accelerates to full operating speed. Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of wheel breakage.

When using a powered grinder, remember these safety tips:

- Always use eye or face protection
- Turn off the power when not in use
- Never clamp a hand-held grinder in a vise

Source: U.S. Department of Labor, OSHA 3080 Hand and Power Tools

*The information and recommendations contained in this material have been obtained from sources believed to be reliable. However, SECURA accepts no legal responsibility for the accuracy, sufficiency, or completeness of such information. Additional safety and health procedures may be required under particular circumstances. Please talk with your SECURA Risk Management Consultant for more information.*

