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ISSUE HIGHLIGHTS:

Abrasive Wheel Safety

Abrasive wheel grinders are used to remove metal from flat and cylindrical surfaces and are available in two types - bench or pedestal grinders that are fixed and portable tools that are used for repair and maintenance jobs.

Workers may not be aware of the hazards of abrasive wheel grinders. Careless operation of these machines can injure hands, fingers, and eyes and cause respiratory problems.

Please see article at right for safety tips when using these types of machines.

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POTENTIAL HAZARDS OF ABRASIVE WHEEL GRINDERS

Some abrasive wheels are mounted so only the exposed flat side is used for grinding. Other machines are designed so that the grinding is done on the circumference of the wheel. Some grinders also have wire brush or buffing wheel attachments.

These machines are cutting tools, and, depending on the operation and equipment, the wheels can revolve at over 20,000 rpm. A wheel that fragments at high speed can cause severe personal injury and possibly death. Each year, employers are cited by the Occupational Safety and Health Administration (OSHA) for abrasive wheel grinder violations. The most common violations are failing to properly adjust the safety guards and work rests on the equipment.

Before an abrasive wheel is mounted, it should be inspected closely and sound or ring-tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument such as the handle of a screwdriver for light wheels, or a wooden mallet for heavier wheels. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring."

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Article continued on page two...



AUTOMOTIVE SAFETY ASSOCIATION (ASA)

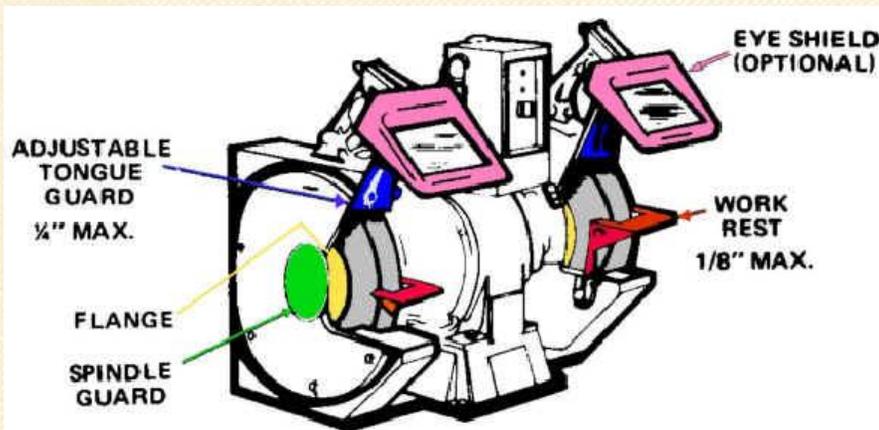
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Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage. The side of the wheel must have a shield in place. The bench grinder(s) must have a tool rest and a tongue guard in-place. The tool rest (at the bottom of the opening) needs to be kept adjusted to within 1/8 of an inch of the wheel. The tongue guard (near the top) should be kept within 1/4 of an inch. These adjustments will help prevent any tools from being drawn into the machine, as well as limiting exploding wheel fragments from hitting an employee.

In addition, when using a powered grinder:

- Always use both a face mask and safety glasses.
- Bench and pedestal grinders need to be fastened down (not with C clamps)
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.



Information for this article was attained from Farmers.com; MySafetyPoint.com and ISO Services, Inc.

EMPLOYERS EVALUATION CHECKLIST:

- Are there written procedures and policies that cover abrasive wheel grinders?
- Are workers trained in the safe and effective ways to operate each type of abrasive wheel grinder used?
- Is the work rest used and kept adjusted to within 1/8 inch (0.3175 cm) of the wheel?
- Is the adjustable tongue guard on the top side of the grinder used and kept to within 1/4 inch (0.6350 cm) of the wheel?
- Do side guards cover the spindle, nut, and flange and 75% of the wheel diameter?
- Are bench and pedestal grinders permanently mounted?
- Are goggles or face shields always worn when grinding?
- Does each grinder have an individual on and off control switch?
- Is each electrically operated grinder effectively grounded?
- Are splash guards mounted on grinders that use coolant to prevent the coolant from reaching employees?

If you answered "NO" to any of these questions, corrective action should be taken to ensure the safety of your employees.

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