# Abrasive Wheels

## 5-Minute Talk

**Overview of topic**

Powered abrasive grinding, cutting, polishing, and wire buffing wheels are regulated at 29 CFR 1926.300 and .303. Because the major hazard of abrasive wheels is flying particles, most of these regulations are designed to protect the worker against flying particles. Here is a summary of the requirements:

- Grinding wheels must be equipped with safety guards.
- Floor and bench-mounted grinders must be provided with rigidly supported and readily adjustable work rests.
- Portable abrasive wheels used for internal grinding must be provided with safety flanges.
- All abrasive wheels must be closely inspected and ring-tested before mounting to ensure that they are free from cracks or defects.
- Grinding wheels must fit freely on the spindle and may not be forced on. The spindle nut must be tightened only enough to hold the wheel in place.
- All employees using abrasive wheels must be protected by eye protection equipment, except when adequate eye protection is afforded by eye shields permanently attached to the bench or floor stand.
- All abrasive wheels and tools must meet ANSI B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

**Employee training**

OSHA's construction regulations require the following training:

- Only employees qualified by training or experience can operate equipment and machinery (Sec. 1926.20(b)(4)).
- Employees must be trained to recognize and avoid unsafe conditions and the regulations applicable to their work environment to control or eliminate the hazards (Sec. 1926.21(b)(2)).
- Limitations and precautions must be given to users of eye protection equipment necessary for abrasive wheel use (Sections 1926.102(a)(8) and .303(c)(9)).

Your training program may also cover procedures for inspection, ring-tests, and reporting broken or missing guards or damaged wheels.

**Training tips**

During training, you may wish to:

- Demonstrate inspection and ring-test procedures. Have trainees practice these procedures.
- Show trainees what a ring should sound like using good and bad wheels.
- Show the types of eye protection required and available for using abrasive wheels at your company.
- Ask employees where they would stand to start up their abrasive wheel. 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.
- Advise trainees never to clamp a hand-held grinder in a vise and to turn off the power when not in use.

**Where to go for more information**

29 CFR 1926.300-Tools hand and power-General requirements.

29 CFR 1926.303-Abrasive wheels and tools.

29 CFR 1910.215-Abrasive wheel machinery.

ANSI B7.1-1970-Safety Code for the Use, Care and Protection of Abrasive Wheels.