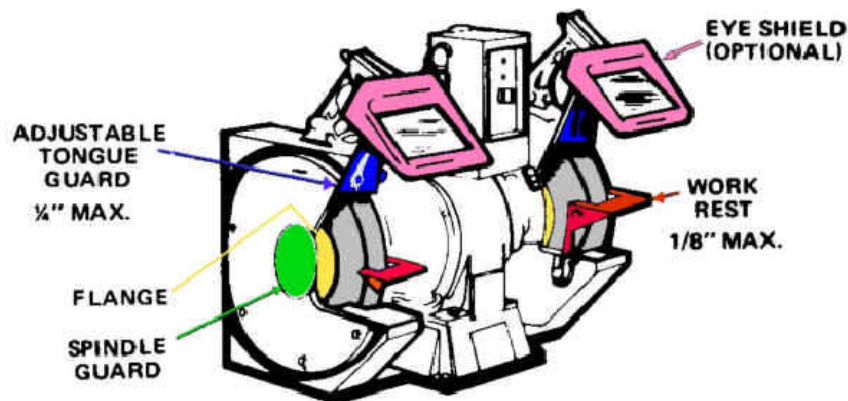


Use, Care, and Protection of Abrasive Wheels



California General Industry Safety Orders Article 21. Use, Care, and Protection of Abrasive Wheels

3577. Protection Devices.

Abrasive wheel machinery guards shall meet the design specifications of the American National Standard Safety Requirements for the Use, Care, and Protection of Abrasive Wheels, ANSI B 7.1-1978. This requirement shall not apply to natural sandstone wheels or metal, wooden, cloth, or paper discs having a layer of abrasive on the surface.

The hood guard shall cover the spindle end, nut, and flange projections. The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.

EXCEPTIONS:

1. Protection hoods on cylindrical grinding machines, in all operations where the work provides a suitable measure of protection to the operator, may be so constructed that the spindle end, nut, and flanges are exposed; and where the nature of the work is such as to entirely cover the side of the wheel, the side covers of the guard may be omitted.
2. The spindle end, nut, and outer flange may be exposed on machines designed as portable saws.

Cup wheels shall be protected by:

- (1) Band type guards of such design and construction as to effectively protect the employee.
- (2) Special "Revolving Cup Guards" which mount behind the wheel and turn with it. They shall be made of steel or other material of adequate strength and shall enclose the wheel sides upward from the back for one-third of the wheel thickness. The mounting features shall conform with all requirements of this section. It is necessary to maintain clearance between the wheel side and the guard. This clearance shall not exceed one-sixteenth inch.

Work rests. On offhand grinding machines, work rests shall be used to support the work. They shall be of rigid construction and designed to be adjustable to compensate for wheel wear. **Work rests shall be kept adjusted closely to the wheel with a maximum opening of one-eighth inch.** The work rest shall be secured after each adjustment. The adjustment shall not be made with the wheel in motion.

EXCEPTIONS:

1. Where the shape of the work will not permit their use.
2. Where the size of the material is such that it cannot wedge between the guard and the wheel.

Abrasive wheels shall be provided with protection hoods or safety guards:

which shall be of such design and construction as to effectively protect the employee from flying fragments of a bursting wheel insofar as the operation will permit.

EXCEPTIONS: This requirement does not apply to the following classes of wheels and conditions.

1. Wheels used for internal work while within the work being ground.
2. Special precision tool room grinders under the supervision of expert mechanics.
3. Type 1 wheels not larger than 2 inches in diameter and not more than 1/2-inch thick, operating at peripheral speeds less than 1800 SFPM when mounted on mandrels driven by portable drills.
4. Type 1 Reinforced wheels not more than 3 inches in diameter and 1/4-inch in thickness, operating at peripheral speeds not exceeding 9,500 SFPM, provided that safety glasses and face shield protection are worn.
5. Types 16, 17, 18, 18R and 19 cones and plugs and threaded hole pot balls where the work offers protection or where the size does not exceed 3 inches in diameter by 5 inches long.
6. Metal centered diamond lapidary wheels either notched, segmented or continuous rim used with a coolant deflector, when operated at speeds up to 3,500 SFPM.
7. Mounted wheels 2 inches and smaller in diameter used in portable operations.
8. Valve seat grinding wheels.