



ISRI[™]

SAFETY GUIDANCE MATERIAL

SAFETY OPERATIONS GUIDANCE

This safety resource was written for the scrap industry by the scrap industry and was developed to assist you in making your scrap operation a safe place for employees, customers, and visitors. This resource covers OSHA requirements that may or may not be applicable to your operation.

GRINDER

DEFINITION: Bench top or portable powered, revolving, abrasive wheel used for grinding metal surfaces. Also used to produce sparks for metal identification testing.

Potential Hazards:

- Aerosolized particles
- Dust
- Electric shock
- Hazardous fumes
- High-velocity flying metal fragments
- Noise
- Oil or hydraulic fluids
- Sharp edges/objects

Guarding/Shielding:

- Safety guard must cover the spindle end, nut, flange projections, and 270° of the circumference of the abrasive wheel. (Exception: wheel of portable grinder that is two inches or less in diameter.)
- Bench and floor stand grinders must have an adjustable work rest. The gap between the edge of the work rest and the grinding surface must never exceed 1/8 inch.
- Bench and floor stand grinders must have a maximum grinding wheel exposure of 90°, with no more than 65° exposure above the horizontal plane of the wheel spindle.
- The maximum exposure of the grinding wheel on portable grinders may not exceed 180°, and the top half of the wheel must be enclosed at all times.

Protective Equipment:

Hard hats*

Safety glasses*

Steel toe/steel shank work boots*

Face shield*

Gloves as needed

Respirator as needed

**minimum requirements*



Safety Procedures:

- Hand tools for placing and removing materials must be such to allow their easy use without the operator having to place any part of his or her body in the machine's danger zone.
- Motors and other electrical equipment must be grounded to prevent electrical shock or ignition of flammable or combustible materials.
- Sufficient safe clearances must be allowed between machinery and adjacent aisles or passageways. Permanent aisles and passages must be clearly marked.
- Indoor floor areas adjacent to machinery must be maintained in a clean and dry condition.
- An eye wash must be situated in a clearly marked location in close proximity to the grinder.
- The grinding wheel must be rated for the revolution speed of the grinder and the material to be processed.
- A preventative maintenance program must be implemented to ensure safe operation of the grinder and the grinding wheel. This preventive maintenance program must include a provision to "ring test" the grinding wheel in an effort to detect anomalies while they are still small.