Grinder Safety



Grinder Safety

- Angle grinders, or side grinders, are handheld power tools that can be used for multiple purposes:
 - Cutting
 - Grinding
 - Polishing





Grinder Safety

- Discs are available for diverse uses:
 - Diamond and metal discs for cutting materials
 - Abrasive discs and stone wheels for grinding surfaces
 - Wire brush wheels and polishing pads for polishing surfaces







Safety Concerns

- There are an abundance of hazards to consider when operating angle grinders.
 - Kick-back
 - The angle grinder may jump off of the material it is being used on, possibly causing lacerations to the individual using it.
 - Disintegration
 - The disc may shatter while in use, resulting in a flying hazard.





Safety Concerns (cont.)

- There are an abundance of hazards to consider when operating angle grinders.
 - Fire/Explosion
 - Sparks created by the grinder while in operation can create a fire or explosion if they come into contact with flammable materials. Hot Work Permit required.



- Electrical
 - Grinding surfaces that are charged or coming into contact with power cords can result in electrocution of the individual using the grinder.



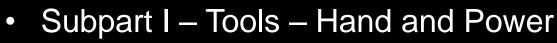
Safety Concerns (cont.)

- There are an abundance of hazards to consider when operating angle grinders.
 - Cuts & Abrasions
 - The grinding disc itself can cause severe physical harm if it comes into contact with the body.
 - Particulates
 - Dust and shavings from the work surface can be cast into the air while working with angle grinders. These can cause problems ranging from breathing issues to explosions.





OSHA Regulations



- CFR 1926.303: Abrasive Wheels and Tools
 - B. Guarding
 - 1. Grinding machines shall be equipped with safety guards.
 - C. Use of Abrasive Wheels
 - 4. Portable abrasive wheels used for internal grinding shall be provided with safety flanges unless:
 - The wheels are 2 inches or less in diameter.
 - Wheels are entirely within the work being ground while in use.

MEOSHA #

OSHA (cont.)

- Subpart I Tools Hand and Power
 - CFR 1926.303: Abrasive Wheels and Tools
 - C. Use of Abrasive Wheels



- 7. All abrasive wheels shall be closely inspected and ring-tested to ensure that they are free from cracks or defects.
- 8.Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place.
- 9. All employees using abrasive wheels shall be protected by eye protection equipment.

Best Practices

- Proper P.P.E. to wear when operating an angle grinder includes:
 - Hard Hat
 - Eye Protection
 - Face Shield
 - Gloves
 - Flame-resistant Clothing
 - Long-sleeve Shirt
 - Jeans
 - Boots
 - Hearing Protection
 - Knee Pads (if kneeling)



Best Practices (cont.)

- Consider this short checklist before beginning work...
 - Is an angle grinder the proper tool?
 - Is the correct disc being used for the task at hand?
 - Is the disc the proper size for the angle grinder?
 - Is the disc designed to operate at the grinder's rotational speed?
 - Is the disc properly attached and secured?
 - Is the safety guard cover attached?
 - Is there a deadman switch on the grinder?
- If the answer to any of these is no, do not use the grinder.

Best Practices (cont.)



- Other safe practices include:
 - Make sure other workers are a safe distance away.
 - Be sure there are no flammable materials nearby.
 - This includes the work surface itself as well as any gases or fumes.
 - Use two hands to operate the grinder.
 - Hold the grinder at a perpendicular angle to your body when using.
 - Check that the power cord and extension cord are properly sheathed and do not have exposed wires.
 - Make sure that the cord is routed so that the angle grinder cannot come into contact with it and so that it is not a hazard to other employees.

Best Practices (cont.)



- Other safe practices include:
 - "Run up" the grinder before applying it to the work surface.
 - Do not allow the grinder to bounce around or bump other surfaces.
 - Never place the grinder down until the disc has stopped rotating.
 - Unplug the grinder before changing discs out.
 - Disconnect the power and place the grinder face up when done.

Think Safety

Work Safely

QUESTIONS?