

Location: \_\_\_\_\_ Instructor: \_\_\_\_\_ Date/Time: \_\_\_\_\_

## TOPIC C139: PORTABLE ABRASIVE WHEELS (HAND GRINDERS)

**Introduction:** Portable abrasive wheel grinders come in a wide range of types and sizes. They can be electric or air powered and are used for cutting, shaping, and cleaning of metal, masonry, wood, and plastic materials. Various abrasive compounds are bonded together into flat discs, or to circular blades and are designed to operate at high speeds. Wire brush wheels and assorted sanding disks are used for cleaning, de-scaling, and paint preparation of metal and wood materials.

### **Tool categories:**

- Small, hand held high-speed “Dremel” types are for fine, intricate work
- Mid-Sized, hand held, high speed “Dotco” types as grinding and cut off work
- Flat (platen) or cupped faced grinding wheels are free hand grinding and shaping of metals, their welds and other materials

### **Safety guidelines for general operations:**

- When you’re using grinding tools, you’re exposed to the hazards of flying, abrasive and splashing objects, or exposed to harmful dusts, fumes or vapors. When using these tools you’ll need to use the necessary PPE to protect yourself from these hazards. This PPE includes eye and face, respiratory, hearing, and hand protection
- Always keep your power grinding tools in good condition with their guards in place.
- Carefully inspect your abrasive wheels, to ensure that don’t have any cracks or defects.
- Portable grinders with wheels 2 inches in diameter or less may be equipped with a positive on/off control switch. Grinders with wheels over 2 inches in diameter must have a momentary contact on/off switch and may have a lock-on control
- All grinders must use a 3-wire grounded circuit unless they are double insulated
- Don’t use the tool’s power cord to raise or lower it from a work place
- Make sure all grinding or cutting wheels fit freely on the spindle, never force a wheel onto the tool
- Tighten the spindle nut only enough to hold the wheel in place
- When grinding metal, it’s easy to leave sharp edges; these must be removed before leaving the work piece

**Conclusion:** Be aware of fire hazards before beginning work, because sparks fly everywhere when grinding metal. Clear the work zone of any flammable material and keep a fire extinguisher nearby. Remember that wheels are high-speed rotary tools, wear appropriate clothes. Avoid loose sleeves and necklaces when grinding; if you have long hair, keep it tied back. By following these safety guidelines you can complete your grinding or cutting operations safely.

**Employee Attendance:**(Names or signatures of personnel who are attending this meeting)

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