

Job Safety Analysis

Safety Information for the University of California, Berkeley

Facilities Services: Electric Hand Power Drills

Overview:

A **Job Safety Analysis** identifies hazards associated with each step of any job or task that has the potential to cause serious injury, determines how to control the hazards, produces a written tool that can be used to train other staff, and meets Cal/OSHA training requirements by developing procedures and work rules that are *specific for each job or task*. For more information, see: [Job Safety Analysis Fact Sheet](#).

Required Training:

N/A

Required Personal Protective Equipment (PPE):

- Gloves to handle material, not while using the drill
- Safety glasses, face shield, and/or goggles if preferred
- Respiratory protection if drilling into concrete/masonry
- Hearing protection recommended

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For more information about this JSA, contact the [Department Safety Coordinator](#).

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Task Description	Associated Hazards	Types of Controls
1. Set up equipment and prepare the work area	1.1. Slips, trips, and falls	1.1.1. Evaluate your work area for hazards Move trip hazards out of the way Barricade the work area with signs, cones, caution tape, etc. if needed Clean water/oil/liquid spills immediately Maintain good housekeeping
	1.2. Muscle sprains and strains	1.1.2. Use safe lifting techniques Use proper tools and equipment Use carts and dollies if needed
2. Corded power drills	2.1. Electric shock, old power cords, frayed, missing ground prongs	2.1.1. Inspect condition of the cord and plug Ensure drill is grounded and/or double insulated Ensure grounding prong is present if applicable Ensure equipment is in good working condition Replace damaged tools and cords Do not carry the drill by the cord Do not yank the cord out of the electrical outlet Keep cords away from heat, oil, and sharp edges

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Task Description	Associated Hazards	Types of Controls
Corded power drills	2.2. Slips, trips, and falls	2.2.1. Work in a clean and organized environment Move stuff out of the way Manage your cords so you don't trip over them Use battery operated drills if available
Corded power drills	2.3. Electric shock if working outdoors or near wet locations	2.3.1. Use ground fault circuit interrupters Clean water/oil/liquid spills immediately Avoid using in extremely wet locations
3. Battery operated power drills	3.1. Electric shock from charger	3.1.1. Follow recharging instructions with the recommended charger and correct replacement battery
4. Changing drill bits	4.1. Burns from hot drill bits	4.1.1. Do not touch the drill bit immediately after use. Wait for it to cool down.

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Task Description	Associated Hazards	Types of Controls
5. Using the hand power drill (corded or not) Use in accordance with user's manual	5.1. Punctures, cuts, amputations	5.5.1. Inspect drill bits for damage Ensure drill bits are sharp and in good condition Discard bits if dull or damaged Do not wear gloves while using the drill Only wear gloves while handling material Ensure drill is facing your work Use clamps, vice grips, and any other means to keep your work secure and your hands and feet away from the workpiece
	5.2. Hair and clothing entanglement	5.5.2. Don't wear loose clothing Tie your hair if you have long hair
	5.3. Flying debris, inhalants	5.5.3. Wear safety glasses, face shields, and/or goggles if preferred Respiratory protection, the wet method, or vacuum is required if drilling into concrete/masonry
	5.4. Muscle sprains and strains from repetitive use, torque power	5.5.4. Let the drill do the work Make sure batteries are fully charged Do not force the drill with excessive pressure Take breaks and stretch when needed
	5.5. Noise	5.5.5. Hearing protection recommended