

Woodworking shops can be dangerous if woodworkers do not receive proper training and supervision and use personal protective equipment. Many hazards exist, including: power and hand tools, noise, electrical and pneumatic energy, flying debris and chemicals. It is important that these hazards be minimized through effective machine safeguarding, safety procedures and operator training. All woodworking shop users should be aware of general shop safety rules and issues associated with each piece of equipment they may operate.

Machine Safeguarding

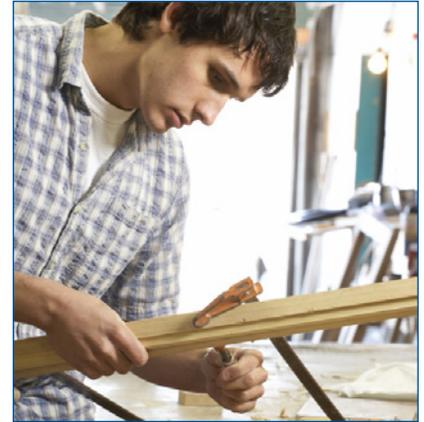
It is important that guards provided by the manufacturer be used on all shop equipment. Properly functioning guards provide a physical barrier between the user and the point of operation. Guards also help contain wood chips and other debris that can be thrown toward the user. Machine guards alone cannot protect the operator from all hazards, so it is important for the operator to set up and use the equipment in a safe manner, according to the manufacturer's recommendations.

Guards should remain in place at all times. If a guard is removed, the machine should be turned off and the electrical power should be locked out. Lockout refers to the process for equipment shutdown, energy isolation and prevention of potentially hazardous energy release during maintenance and servicing activities. Lockout should always be performed on a piece of equipment before any repair is started. For more information, refer to EMC's tech sheet "Lockout/Tagout Program."

Personal Protective Equipment (PPE)

Operators working with wood may be exposed to flying particles that can strike the eyes or face. In addition, chemical products such as varnishes and urethanes can splash into the eyes during finishing operations. These exposures can be minimized by requiring the use of proper types of personal protective equipment, such as:

- **Safety glasses** — They protect against flying particles and should cover both the front and sides of the eyes.
- **Goggles** — In addition to protection from particles and dust, they provide additional protection from liquid splashes because they fit snugly on the face. For this reason, they protect the eyes better than safety glasses.
- **Face shields** — These should be worn to supplement safety glasses or goggles. They are adjustable and guard the face against both flying objects and splashes.



Hearing protection is also important in some woodworking shops. Many woodworking tools produce sound levels above 85 decibels. The Occupational Safety & Health Administration (OSHA) indicates that exposure to noise at or above 85 decibels on an 8-hour, time-weighted average (TWA) can cause permanent hearing loss. In some cases, it is possible to add shields around the loudest equipment to absorb or deflect the noise. However, if noise shields cannot be added, another protective measure is to wear personal hearing protection. The goal of hearing protection (e.g., earplugs and earmuffs) is to reduce exposure to harmful noise, while still allowing voices and machine warnings to be heard. In areas with extreme levels of noise, it may be necessary to wear both earplugs and earmuffs at the same time.

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Footwear worn in the shop should protect from the hazards of falling debris and moving equipment.

Open-toed shoes (like sandals) do not offer enough protection because toes can be crushed or cut by falling objects. Workers should ensure that the soles of their shoes are thick enough to prevent punctures by nails and other sharp objects. The best way to protect feet from injuries is to wear steel-toed boots or shoes, which have a protective cap that covers the toes.

To determine the PPE necessary for your organization's shop, conduct a PPE Hazard Assessment. For more information on how to develop this, refer to EMC's tech sheet "Personal Protective Equipment Hazard Assessment."

Clothing, Jewelry and Hair

Wearing appropriate clothing is also important in the woodworking shop. Loose clothing, necklaces and other jewelry can easily become tangled in a machine or tool. In addition, many people have been injured in woodworking shops when hair became entangled in a fast-spinning tool. Always take the following precautions in the woodworking shop:

- **Clothing** — Roll long sleeves up above the elbow. This will keep clothes clean and prevent the clothing from getting caught in the tool.
- **Jewelry** — Never wear loose necklaces or jewelry when operating woodworking equipment. Remove rings to prevent fingers from being caught in the moving equipment.
- **Long hair** — Long hair should be tied back so it cannot hang over the tool.

Fire Prevention and Suppression

When sawdust, wood chips, flammable solvents and oils are combined with tools that can generate heat and sparks, the possibility of fire is very real. Fortunately, good work practices can lessen the chance of fire. Regularly cleaning sawdust from tools, workbenches and floors eliminates a common fuel source in woodworking shops. When working with

flammable products such as solvents or stains, always make sure to keep the containers closed when not in use. Make sure containers of flammable liquids are stored inside a flammable liquids storage cabinet. Waste rags covered with oils or solvents should be deposited in a UL®-listed safety can and removed from the building every night. Fire extinguishers rated for wood and flammable liquids fires should be available for use during an emergency.

Hazardous Chemicals and Waste

Woodworkers should always read the container label and Material Safety Data Sheet (MSDS) before working with a product. The MSDS will summarize the hazards associated with the product, such as its flammability, toxicity or corrosiveness. It will also discuss the types of personal protective equipment that should be used, symptoms associated with overexposure and first aid measures to take during an exposure situation.

Some products used in woodworking shops have been classified as hazardous waste by the U.S. Environmental Protection Agency (EPA) because of their potential impact on the environment. Users should always dispose of hazardous wastes safely and legally and never pour them down the drain or onto the ground. If there is any question as to whether or not a product is considered hazardous waste, refer to the MSDS or contact the product manufacturer.

For Additional Information

Occupational Safety & Health Administration:

www.osha.gov

- Woodworking eTool

EMC Insurance Companies: www.emcins.com

- Tech Sheets:
 - ▶ Electric Portable Power Tool Safety
 - ▶ Machine Safeguarding: Table Saws
 - ▶ Electric Portable Power Tool Safety
- Loss Prevention Information Manual:
 - ▶ Machine Safeguarding