

Fire Safety and Prevention

Woodshops obviously come with inherent safety hazards like sharp cutting edges and heavy lumber, but perhaps one of the most dangerous hazards is highly combustible wood dust. Likewise, fire safety is especially important when working in woodshops. Here are some common woodshop fire hazards and ways to prevent them.

Wood Dust

Accumulated wood dust significantly increases the chance for fires and explosions, as it is highly combustible in the presence of an ignition source. Wood dust built up in an enclosure can explode under pressure, or when ignited by naked flames, impact sparks, static electricity discharges and faulty/exposed electrical equipment.

You can reduce the risk of wood dust fires by cleaning equipment and your shop regularly to prevent sawdust buildup. Placing electric panels and transformers as far away from dust-producing equipment as possible. Make sure your shop is properly ventilated, and control wood dust buildup by cleaning floors, walls, shelves and ceilings regularly as well.

Preventing the buildup of dust is one of the key means for controlling fire and explosion hazards. The principal engineering control technology for control of dust is exhaust ventilation. The primary work practice control is good housekeeping.

Good housekeeping extends to periodic hand cleaning of your entire facility, as some dust will escape from even the best exhaust system and will eventually accumulate on rafters and other out-of-the-way spots. Also, it is extremely important to inspect and clean your exhaust ventilation system on a regular basis to maintain maximum efficiency.

Dust collection is best accomplished at the source-at the point of operation of the equipment, if feasible. For many pieces of equipment, well-designed ducts and vacuum hoods can collect most of the dust generated before it even reaches the operator. Very fine dust that manages to escape point-of-source collection can be captured from above by general exhaust points and air filtration units located along the ceiling. These control technologies are effective for most equipment, excepting machines that commonly produce the very finest dust or large quantities of dust.

Other Ignition sources

Woodshops contain large quantities of potential fuel for fires. Beyond wood and sawdust, other flammable materials like paints, oil finishes, adhesives, solvents and liquid propane can all be potential fire hazards.

Prevent risk of fire by properly storing flammable materials. Always perform tasks that are prone to fire hazards, like spray-painting and welding, in open, well-ventilated areas. Protect electrical systems by using appropriate breakers and grounding all equipment. Try to keep combustible and flammable materials like lumber and chemical solvents away from each other, and away from ignition sources.

Fire Protection Measures

Readily accessible, portable fire extinguishers fully charged with fire retardants appropriate to the types of fires likely to occur in that area.

Ensure the proper use and storage of flammable materials, such as paints, finishes, adhesives, and solvents.

Segregate tasks particularly prone to fire and explosion hazards, such as spray painting, welding, and use of powder-actuated nail guns.

Control ignition sources. This involves using electrical systems rated for the projected use and protected by appropriate circuit breakers, grounding all equipment prone to accumulating static electrical charges, grounding entire buildings against the possibility of lightning strikes, and controlling and banning smoking in and around the workplace.

Never permit blow-down of accumulated dust with compressed air. Blowing dust with compressed air will create the very type of dust cloud that presents the greatest explosion hazard.

Segregate combustible and flammable materials such as lumber stock and chemical solvents from each other and from ignition sources.