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Occupations and Workplaces Back to top A carpenter builds or repairs various structures, working primarily with wood. Some of a carpenter's main duties are to: Move, measure, cut, shape, assemble and join materials. Read, prepare and interpret blueprints and drawings. Prepare cost estimates and documentation for clients. Conform to building codes and other regulations. Use, clean and maintain various equipment and tools. Supervise apprentices or other workers. Back to top Carpenters face their own unique set of occupational hazards. These include the following: Use of various machinery and tools. Exposure to loud noise from machinery and tools. Moulds, fungi and bacteria. Chemicals, solvents, paints, stains, and other materials which may result in dermatitis, allergic reactions, or respiratory problems. Cancer risk from certain wood dusts. Flammable materials, including wood dust. Combustible dust may also be a concern. Risk of pain or injury from working in awkward positions, performing repetitive tasks, or lifting. Risk of cuts, abrasions, and other injuries from handling workpieces and using tools or equipment. Risk of entanglement of body parts into rotating parts or machinery. Extreme temperatures when working outdoors. Risk of eye injury from flying particles. Working at heights. Stress. Shift work or extended work days. Working alone.Additional hazards may be present due to the nature of the worksite. Always be aware of your surroundings. Back to top Inspect work area, tools, and equipment before work starts for possible hazards. Select tools and equipment that allow work to be done using good ergonomic procedures.. When there is a choice, select a tool of low weight. Keep tools and equipment in good working order. Know when to replace accessories on woodworking machines. Clean up wood dust regularly and maintain good housekeeping practices. Keep work areas clear of clutter and equipment. Disconnect the power to any machine when you have to fix an issue or change parts. Use lock-out/tag out procedures and/or maintain control of the power while working on the machine to prevent accidental start-up. Never operate machinery without all guards in place. Wear appropriate eye protection, hearing protection, footwear, and other protective equipment for the task. Know about the products you are working with, including type of wood, chemicals, paints, stains, etc. Learn safe lifting techniques. Avoid awkward postures or repetitive tasks, or take frequent breaks. Be sure to stand in the correct position - always allow for kick back. Never use your hands to run lumber through the blade or to clean off sawdust. Use a push stick and a brush. Do not wear loose clothing around rotating parts or machinery. Follow a recommended shift work pattern, and know the associated hazards. Install and maintain appropriate ventilation. Back to top Fact sheet last revised: 2021-01-07 Back to top In general, eye and face protection needs to be worn whenever there is a risk to a worker that could result in an injury or harmful exposure to a workers eyes or face. These hazards are associated with:Flying objects, particles, and dust (e.g., grinding, cutting, hammering, sawing)Splashes (including droplets and sprays) from chemicals and other liquidsRadiation (e.g., welding) and lasersAbrasive and molten materialCheck the legislation in your jurisdiction to determine the requirements for eye and face protection. Many jurisdictions in Canada require eye and face protection to meet CSA Standard Z94.3 Eye and Face Protectors.Workplaces should conduct hazard assessments to identify the hazards that workers may be exposed to, and then select appropriate personal protective equipment when engineering controls or other more permanent methods of control are not possible. Consult with the personal protective equipment manufacturer about the uses and limitations of each type of eye and face protection.If using personal protective equipment is part of the work, the workplace should develop and implement a personal protective equipment program. A good comprehensive strategy involves considering the hazards, conducting risk assessments, evaluating all possible control methods, integrating various approaches, and re-examining the controls frequently to make sure that the hazard continues to be controlled. Back to top Below is a brief description of different types of eye and face protection (see tables further below for more detailed information),Safety glasses or spectacles Protect eyes from impact hazards (e.g., flying objects and particles).GogglesDirect ventilated goggles which protect against impact hazardsNon-ventilated and indirect ventilated goggles which protect against impact hazards, chemical or liquid splashes, and fine dusts.Goggles specifically designed for protection against non-ionizing radiation and lasers are also available.Face ShieldsHelps protect the eyes, nose, mouth, and face from impact hazards and chemical or liquid splashes (including saliva).Face shields are also available to protect against non-ionizing radiation, high heat and electric arcs.When used for protection from respiratory infectious diseases,face shields can offer benefits such as protection from respiratory particles produced from coughing or sneezing, and from splashed bodily fluids(e.g., blood and saliva).Welding HelmetsProtects eye and face from radiation, weld splatter, and impact hazards associated with certain activities (e.g., welding, torch cutting, brazing).HoodsProtects eye and face from impact hazards, dust, splashes, and abrasive material. Hoods are also available to protect against non-ionizing radiation, high heat and electric arcs.Respirator facepiecesFull-face respirators provide a seal or partial seal (e.g., loose-fitting hood or helmet) around the perimeter of the face. Protects eye and face from chemical exposures, fine dusts and particles, liquid splashes, and impact hazards (lens in the respirator must meet the same impact protection standards as safety glasses and face shields).Respirator facepieces are also available to protect against non-ionizing radiation. Back to top Lenses: CSA-certified eye and face protectors must meet the criteria for impact resistance as outlined in the standard. Only devices made of approved materials are permitted.Markings: The manufacturer or supplier certification mark must be present on all approved safety lenses, frames (front and temple), removable side shields, and other parts of the glasses, goggles, or helmets. Products that are tested and approved by CSA will bear the CSA certification mark.Frames: Safety frames are stronger than street-wear frames and are often heat resistant. They are also designed to prevent lenses from being pushed into the eyes. Back to top Comparison of Lens MaterialsMaterialCharacteristicsHi-VexMore impact-resistant than CR39 plasticAvailable with all surface treatments (coatings)100% UV filteringLight weightMaterial is very clearPolycarbonateMost impact-resistant of all lens materialsLightweightCan be coated for scratch resistanceMost have built-in UV radiation absorption propertiesPlastic (CR39)About one-half the weight of glassResistant to solvents and pittingTrivexMore impact resistant than CR39 PlasticLess impact resistant than polycarbonateUV radiation absorption propertiesGlassHigh-density material resulting in heavy lensesLoses impact resistance if scratchedDoes not meet impact criteria as set by CSA Z94.3From: CSA Standard Z94.3.1-16 Guideline for selection, use and care of eye and face protectors, 2016 Back to top Eye wear will protect the user if the protection device fully covers the eye and surrounding soft tissues. If eye protection is required, establish a complete eye safety protection program, including selection, fit testing, training, maintenance, and inspection.FitEnsure your safety eye wear fits properly. Eye wear should cover from the eyebrow to the cheekbone and across from the nose to the bony area on the outside of the face and eyes. Eye size, bridge size and temple length all vary. Eye wear should be individually assigned and fitted so that gaps between the edges of the device and the face are kept to a minimum.Eye wear should fit over the temples comfortably and over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose.Users should be able to see in all directions without any major obstructions in their field of view.Face shields should extend below the chin and above the eyes, and should wrap around the sides of the faceCareEye and face protection devices need maintenance.Clean your devices daily and as often as necessary. Follow the manufacturer's instructions.Avoid rough handling that can scratch lenses. Scratches impair vision and can weaken lenses.Store your devices in a clean, dry place where they cannot fall or be stepped on. Keep them in a case when they are not being worn.Replace scratched, pitted, broken, bent or ill-fitting devices immediately. Damaged devices interfere with vision and do not provide protection.Replace damaged parts only with identical parts from the original manufacturer to ensure the same safety rating.Do not change or modify the protective device. Back to top Lenses can be clear, tinted, photochromic or polarized. Each type offers various levels of ultraviolet protection, including no protection (even when coloured). Do not be fooled by the colour of the lenses. Back to top If you are at risk for eye or face injury at work, you should wear appropriate protection.To select the proper protectors, follow the recommendations in the table below.Note: This table cannot cover all possible hazards and combinations that may occur. Examine each situation carefully and select the appropriate protector or combination of protectors.Nature of hazardHazardous Activities involving but not limited toRecommended protectorsFlying ObjectsChipping, scaling, stonework, drilling, grinding, buffing, polishing, hammer mills, crushing, heavy sawing, planing, wire and strip handling, hammering, unpacking, nailing, punch press, latheworkClass 1A - SpectaclesClass 2A, 2B - GogglesClass 5A, 5B - HoodsClass 6A, 6D - Face shieldsFlying particles, dust, wind, etc.Woodworking, sanding, light metal working and machining, exposure to dust and wind, resistance welding (no radiation exposure), sand, cement, aggregate handling, painting, concrete work, plastering, material batching and mixingClass 1A - SpectaclesClass 2A, 2B - GogglesClass 5A, 5B - HoodsClass 6A, 6D - Face shieldsHeat, sparks, and splash from molten materialsBabbiting, casting, pouring, molten metal, brazing, soldering, spot welding, stud welding, hot dipping operationsClass 1B - SpectaclesClass 2C - GogglesClass 5C, 5D - HoodsClass 6B, 6C, 6D - Face ShieldsAcid splash, chemical burnsAcid and alkali handling, degreasing, pickling and plating operations, glass breakage, chemical spray, liquid bitumen handlingClass 2B - GogglesClass 5B - HoodsClass 6A - Face ShieldsAbrasive blasting materialsSand blasting, shot blasting, shotcretingClass 2B - GogglesClass 5B - Non-Rigid HoodsClass 6A - Face ShieldsGlare, stray light (where slight reduction of visible radiation is required)Reflection, bright sun and lights reflected welding flash, photographic copyingClass 1A - SpectaclesClass 2A, 2B - GogglesClass 5A, 5B - HoodsClass 6A - Face ShieldsInjurious optical radiation (where moderate reduction of optical radiation is required)Torch cutting, welding, brazing, furnace work, metal pouring, spot welding, photographic copyingClass 1B - SpectaclesClass 2C - GogglesClass 5C - HoodsClass 6B - Face ShieldsInjurious optical radiation (where a large reduction of optical radiation is required)Babbiting, casting, pouring, molten metal; brazing, soldering, spot welding, stud welding, hot-dipping operationsClass 3 - HelmetClass 4 - HandshieldLaser radiationLaser cutting, laser surgery, laser etchingClass 2D - GogglesElectric arc flashElectrical installation, electrical maintenance, troubleshooting of electrical systems, disconnecting live electrical systemsClass 2E - GogglesClass 5E - HoodsClass 6D - Face shieldsFrom: CSA Standard Z94.3.1-16 Guideline for selection, use and care of eye and face protectors, 2016 Back to top Eye and face protection may also be required when there is a risk of exposure to infectious diseases that can be transmitted through respiratory droplets or other bodily fluids. Splashed body fluids may also increase the risk of other diseases such as hepatitis B and C, and HIV. Safety glasses, goggles, and face shields may be used as an additional layer of protection to help prevent infectious droplets from coming into contact with a workers eyes, nose or mouth. These devices are not substitutes for respiratory protection, and appropriate masks and respirators need to be worn when required. Back to top Splashes, droplets and sprays:Goggles with indirect ventilationFace shield worn over goggles with indirect ventilationLoose-fitting respirator worn over safety glasses or gogglesFull-face respiratorIrritating chemical mists:Goggles with no ventilationFace shield worn over goggles with no ventilationLoose-fitting respirator worn over safety glasses or gogglesFull-face respirator(based on guidance from ANSI Z87.1-2015 Personal Eye and Face Protection Devices)Make sure the eye and face protection is appropriate for the hazards and is selected, used, and maintained in accordance with the applicable legislation and standards. If respirators are worn, the workplace must follow the requirements of their respiratory protection program. Fact sheet last revised: 2024-02-26 Occupations and Workplaces Back to top Construction is an industry that requires working at ever-changing locations and work environments. This profile refers to general construction workers. Others at a construction site include electricians, carpenters and plumbers.Some of the main duties of a general construction worker are to:Install various commercial, industrial or residential systems.Ensure that projects conform to building codes and regulations.Use, clean and maintain various types of equipment.Supervise or apprentice other workers. Back to top Pain or injury from physical overexertion, repetitive manual tasks, prolonged standing, or working in awkward positions.Exposure to moulds, fungi and bird or rodent droppings.Exposure to lead, wood dust , asbestos, paints, solvents, and other toxic chemicals or materialWorking in extreme temperatures and UV radiation.Working in adverse weather conditions (such as cold , heat , high winds , or lightning. Working with hand tools, powered tools and heavy powered equipment.Excess vibration in the hands, arms or body from powered tools or equipment.Confined spaces.Noise.Working at heights.Working with portable ladders and fixed ladders. Electrical hazards.Hazardous energy control including lockout/tag out.Working with cranes, hoists, and other material handling equipment.Slips, trips and falls.Respiratory hazards from wood dust.Explosion and fire hazards from combustible dusts.Stress.Shift work or extended work days.Working alone.Struck by mobile equipment.Maintaining good housekeeping.Workplace violence and harrassment . Back to top Scan the workplace for existing and potential hazards before work begins and take appropriate controls. Be aware that conditions can change constantly. Inspect all equipment and machinery for any defects before work begins.Keep tools and equipment in good working order.Use correct personal protective equipment and apparel, including safety footwear. Keep all work areas clear of clutter and equipment.Avoid awkward body positions or take frequent breaks.Learn safe lifting techniques.Have training before beginning any task, especially high-risk activities such as working at heights, hazardous energy control (lockout/tag out), or confined space entry.Follow a recommended shiftwork pattern, and be aware of the associated hazards.Be aware of seasonal hazards from working in extreme temperatures.Know how to get help in an emergency for working alone situations.Be aware of the emergency response plans before work begins. Back to top Back to top General information is available in OSH Answers or through the CCOHS person-to-person Inquiries Service. Fact sheet last revised: 2021-08-25 Scheduled maintenance - Thursday, July 12 at 5:00 PM EDT We expect this update to take about an hour. Access to this website will be unavailable during this time. Back to top Woodworking tools can be dangerous if not used properly.Only use woodworking machines that you have been trained to use properly and safely.Read the owner's manual carefully.Make sure you understand instructions before attempting to use any tool or machine. Ask questions if you have any doubts about doing the work safely. Back to top Always wear safety glasses or goggles, or a face shield (with safety glasses or goggles).Wear an appropriate respirator when required and follow your workplace's respiratory protection program.Wear hearing protection that is suitable for the level and frequency of the noise you are exposed to in the woodworking area. If you have trouble hearing someone speak from three feet away, the noise level from the machine is too high. Damage to hearing may occur.Use gloves to protect hands from splinters when handling wood but do not wear them near rotating blades and other machinery parts where the gloves can catch.Wear protective footwear when required.Make sure the guard is in position, is in good working condition, and guards the machine adequately before operating any equipment or machine. Check and adjust all other safety devices.Make sure the equipment is properly grounded before use.Check that keys and adjusting wrenches are removed from the machine before turning on the power.Inspect stock for nails, staples, loose knots or other defects before cutting, planing, routing, or carrying out similar activities.Make sure that all machines have start and stop buttons within easy and convenient reach of an operator. Start buttons should be protected so that accidental contact will not start the machine. A collar around the button 3 to 6 mm (1/8 to 1/4 inch) above the button is recommended.Ensure that all cutting tools and blades are clean, sharp, and in good working order so that they will cut freely, not forced.Turn the power off and unplug the power cord (or lock out the power source) before inspecting, changing, cleaning, adjusting or repairing a blade or a machine. Also, turn the power off when discussing the work or when your attention is distracted.Use a "push stick" to push material into the cutting area. Jigs are also useful in keeping hands safe during cutting procedures. Keep hands out of the line of the cutting blade.Clamp down and secure all work pieces when drilling, sanding, cutting or milling.Use good lighting so that the work piece, cutting blades, and machine controls can be seen clearly. Position or shade lighting sources so they do not shine in the operator's eyes or cause any glare and reflections.Ensure that the floor space around the equipment is sufficient to enable you to machine the size of work piece being processed safely without bumping into other workers or equipment.Use extension tables or roller supports for large workpieces. Supports should be placed on both sides (infeed and outfeed).Woodworking machines should be fitted with efficient and well-maintained local exhaust ventilation systems to remove sawdust or chips that are produced.Electric power cords should be above head level or in the floor in such a way that they are not tripping hazards.Keep work area free of clutter, clean, well swept, and well lit. Spills should be cleaned up immediately. Floor areas should be level and non-slip. Good housekeeping practices and workplace design will reduce the number of injuries and accidents from slips, trips, and falls.Keep the area free from water and moisture. Do not use electrical equipment outdoors in the rain.Always keep your attention on the work. For example, if you must talk to another person, turn off the equipment first. Back to top Do not wear loose clothing, work gloves, neckties, rings, bracelets or other jewellery that can become entangled with moving parts.Avoid awkward operations and hand positions where a sudden slip could cause your hand to move into the cutting tool or blade.Do not stand directly behind stock that is being cut, planed, or jointed to avoid injury from kick-back.Do not remove sawdust or cuttings from the cutting head by hand while a machine is running. Use a stick or brush when the machine has stopped moving.Do not use compressed air to remove sawdust, turnings, etc. from machines or clothing.Do not leave machines running unattended (unless they are designed and intended to be operated while unattended). Do not leave a machine until the power off is turned off and the machine comes to a complete stop.Do not try to free a stalled blade before turning the power off.Do not distract or startle an operator while he or she is using woodworking equipment.Horseplay should be prohibited. It can lead to injuries.Do not perform maintenance on the machine unless all hazardous energy is controlled. Fact sheet last revised: 2025-03-13 Back to top Exposure to wood dust has been associated with health issues due to the natural chemicals in wood or substances in the wood, such as bacteria, moulds, or fungi.Wood dust is considered carcinogenic to humans (Group 1) according to the International Agency for Research on Cancer (IARC). IARC states that wood dust causes cancer of the nasal cavity (nose area) and paranasal sinuses (spaces in and around the nasal cavity) and of the nasopharynx (upper part of the throat, behind the nose).Wood dust is also associated with toxic effects, irritation of the eyes, nose and throat, dermatitis, and respiratory system effects which include decreased lung capacity and allergic reactions.NOTE: This document focuses on the health concerns associated with wood dust from untreated wood. Wood dust is also a safety concern because it can cause a fire or explosion. Please see the OSH Answers on Combustible Dusts for more information. Back to top Wood dust is created during all stages of wood processing such as sawing, routing, sanding and other operations. Workers can also be exposed when the dust becomes airborne such as when removing dust from furniture, maintenance activities, or when cleaning equipment (e.g., emptying the bag from a dust extraction system or vacuum). Back to top Irritation, coughing or sneezing are caused by the dust itself. Exposure to excessive amounts of wood dust may irritate the eyes, nose, and throat. Workers may also experience shortness of breath, dryness and sore throat, conjunctivitis (inflammation of the mucous membranes of the eye), and rhinitis (runny nose).Dermatitis is common and may be caused by the chemicals in the wood. For dermatitis, the skin may become red, itchy, dry, or blister. Allergic contact dermatitis may also develop.Respiratory system effects include decreased lung capacity, and allergic reactions in the lungs such as hypersensitivity pneumonitis (inflammation of the walls of the air sacs and small airways), and occupational asthma. Hypersensitivity pneumonitis may develop within hours or days following exposure and is often confused with cold or flu symptoms because it begins with headaches, chills, sweating, nausea, breathlessness, etc. Tightness of the chest and breathlessness can be severe, and the condition can worsen with continued exposure. Some hypersensitivity pneumonitis conditions may be caused by moulds that grow on the wood (and not by the wood itself). Occupational asthma may also develop. Western red cedar is a wood that has a clear association with the development of asthma.Toxic effects are specific to the species of wood. The chemicals in the wood may be absorbed into the body through the skin, lungs, or digestive system. When the body absorbs the chemical, the chemical may cause headaches, loss of weight, breathlessness, giddiness, cramps and irregular heartbeat.While many species of trees have been associated with health effects, table 1 summarizes the health effects from some common types of wood.Table 1: Health Effects Reported with Various Types of Woods[Adopted from Work Safe Alberta (2009)]Wood TypeHealth EffectsAlder (common, black, red)Dermatitis (black alder); decrease in lung function (red alder)AspenNo health effects reportedBeechDermatitis (wood cutters disease) due to lichens growing on the bark of beech trees, rhinitis, asthma, nasal cancerBirchIrritant dermatitisCedar (western red)Asthma, allergic contact dermatitis, sensitizer, decrease in lung function, eye irritation and conjunctivitis, rhinitisDouglas FirContact eczema, decrease in lung capacityFir (grand, balsam, silver, alpine)Skin irritation, dermatitis, rhinitis, asthma, possible decrease in lung functionHemlockSkin irritation, decreased lung functionLarch (European, western)Allergic dermatitis from European larch; no reports with western larchMahoganyDermatitis, sensitizerMapleRhinitis, asthma, Maple Bark Strippers disease (mould spores in bark)OakNasal cancerPine (white, lodgepole, jack)Skin irritation, contact dermatitis, Wood-pulp workers disease (mould in bark), rhinitis, asthmaPoplarContact dermatitis, sensitizerRosewoodEczema, allergic contact dermatitisSpruceSkin irritation, Wood-pulp workers disease (mould spores in bark), decrease in lung functionTeakToxic, dermatitis, sensitizerWalnut (black)Skin irritation, rhinitis, possible asthmaYewIrritation of skin, dermatitis, toxicBe aware that other products used on or in wood may also have hazards. Resins, pesticides, paint, paint strippers, glues, adhesives, waterproofing compounds, lacquers, varnishes, sealants, dyes, and other products are examples. Always read and understand the safety data sheet associated with these products to make sure they are being used, handled, and stored appropriately. Back to top Some of the occupations at increased risk for exposure to wood dust include the following:Workers employed in logging, sawmills, furniture, and cabinet makingCarpentersCleaning or maintenance staff activities where wood dust is generated or reintroducedConstruction workersShipbuilding workersFine dust that results from the processes such as shaping, routing and sanding are associated with higher exposure levels. Hardwoods generally produce more dust than softwoods when worked in similar conditions. Dry wood tends to produce more dust.National Institute for Occupational Safety and Health (NIOSH) notes that the chemicals associated with allergic reactions are usually found in the inner parts of a tree, e.g., the heartwood. The workers most often showing reactions are those who do secondary wood processing (e.g., carpenters, joiners, and finishers). Back to top Know which type of wood is being used and all hazards associated with that wood.Substitute with another type of wood with no or fewer known health effects, where possible.Reduce dust generation. For example, reduce the need to cut or shape the wood.Use an appropriately designed industrial ventilation system, including local ventilation exhaust and the use of high-efficiency particulate (HEPA) filters. The design of the ventilation system will depend on the equipment being used (sanders, shapers, routers, saws, etc.).Use on-tool extraction systems.Keep tools and blades sharp. As tools dull, they may release more dust into the air.Be aware that significant exposure can happen when cleaning (e.g., emptying dust bags) or maintaining equipment.Practice good housekeeping. Keep surfaces and floors clear.Use cleaning methods that reduce re-introducing the dust into the air. Use wet clean-up methods (e.g., wipe surfaces with a wet rag or mop) or use a vacuum with a HEPA filter.Read, understand, and follow health and safety information on the safety data sheet (where available and applicable).Provide appropriate education and training that informs employees about the hazards of wood dust exposure, safe work procedures, how to identify when a ventilation system is working appropriately, and the importance of control measures.Wear respiratory protection when appropriate.Use protective clothing and gloves to reduce skin exposure.Practice good personal hygiene (e.g., wash or shower to remove dust from the skin). Wash hands and face when finished a task, and before eating, drinking or smoking. Clean clothes by washing or using a vacuum when washing facilities are not available.Bag and seal dust waste to prevent dust from re-entering the air.DO NOT use compressed air to blow the dust off of furniture, equipment or clothing.To prevent a combustible dust explosion, DO NOT allow wood dust to accumulate, including on ledges, ceiling beams, light fixtures, hidden areas, etc. Back to top ACGIH TLV Western Red Cedar TWA: 0.5 mg/m3 (I), DSEN, RSEN, A4ACGIH TLV All other species TWA: 1 mg/m3ACGIH Carcinogenicity: Oak and beech = A1; Birch, mahogany teak, walnut = A2; All other wood dusts = A4Exposure Guideline Comments: TLV = Threshold Limit Value. TWA = Time-Weighted Average. (I) = Inhalable particulate matter. DSEN = Dermal sensitization. RSEN = Respiratory sensitization. A1 = Confirmed human carcinogen. A2 = Suspected human carcinogen. A4 = Not suspected as a human carcinogen. Back to top Use respirators as part of a personal protective equipment program. The National Institute for Occupational Safety and Health (NIOSH) recommends the following:(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus.Escape:(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.Any appropriate escape-type, self-contained breathing apparatus.APF = Assigned Protection FactorRecommendations apply only to National Institute for Occupational Safety and Health (NIOSH) approved respirators. Refer to the NIOSH Pocket Guide to Chemical Hazards for more information. Fact sheet first published: 2017-08-03 Fact sheet last revised: 2023-03-28 Back to top Effective housekeeping can help control or eliminate workplace hazards. Poor housekeeping practices frequently contribute to incidents. If the sight of paper, debris, clutter and spills is accepted as normal, then other more serious hazards may be taken for granted.Housekeeping is not just cleanliness. It includes keeping work areas neat and orderly, maintaining halls and floors free of slip and trip hazards, and removing of waste materials (e.g., paper, cardboard) and other fire hazards from work areas. It also requires paying attention to important details such as the layout of the whole workplace, aisle marking, the adequacy of storage facilities, and maintenance. Good housekeeping is also a basic part of incident and fire prevention.Effective housekeeping is an ongoing operation: it is not a one-time or hit-and-miss cleanup done occasionally. Periodic "panic" cleanups are costly and ineffective in reducing incidents. Back to top Poor housekeeping can be a cause of incidents, such as:tripping over loose objects on floors, stairs and platformsbeing hit by falling objectsslipping on greasy, wet or dirty surfacesstriking against projecting, poorly stacked items or misplaced materialcutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire or steel strappingTo avoid these hazards, a workplace must "maintain" order throughout a workday. Although this effort requires a great deal of management and planning, the benefits are many. Back to top A good housekeeping program plans and manages the orderly storage and movement of materials from point of entry to exit. It includes a material flow plan to ensure minimal handling. The plan also makes sure that work areas are not used as storage areas by having workers move materials to and from work areas as needed. Part of the plan could include investing in extra bins and more frequent disposal.The costs of this investment could be offset by the elimination of repeated handling of the same material and more effective use of the workers' time. Often, ineffective or insufficient storage planning results in materials being handled many times and being stored in hazardous ways. Knowing the workplace layout and the movement of materials throughout it will help when planning work procedures.Worker training is an essential part of any good housekeeping program. Workers need to know how to work safely with the products they use. They also need to know how to protect other workers such as by posting signs (e.g., "Wet - Slippery Floor") and reporting any unusual conditions.Housekeeping order is "maintained" not "achieved." Cleaning and organizing must be done regularly, not just at the end of the shift. Integrating housekeeping into jobs can help ensure this task is done. A good housekeeping program identifies and assigns responsibilities for the following:clean up during the shiftday-to-day cleanupwaste disposalremoval of unused materialsinspection to ensure cleanup is completeDo not forget out-of-the-way places such as shelves, basements, sheds, and boiler rooms that would otherwise be overlooked.The final step to any housekeeping program is inspection. It is the only way to check for deficiencies in the program so that changes can be made. Examples of checklists include inspecting offices and manufacturing facilities. Back to top The maintenance of buildings and equipment may be the most important element of good housekeeping. Maintenance involves keeping buildings, equipment, and machinery in safe, efficient working order and in good repair. It includes maintaining sanitary facilities and regularly painting and cleaning walls. Broken windows, damaged doors, defective plumbing, and broken floor surfaces can make a workplace look neglected; these conditions can cause incidents and affect work practices. It is important to replace or fix broken or damaged items as quickly as possible. A good maintenance program provides for the inspection, maintenance, upkeep, and repair of tools, equipment, machines, and processes.Dust and Dirt RemovalEnclosures and exhaust ventilation systems may fail to collect dust, dirt and chips adequately. Vacuum cleaners are suitable for removing light dust and dirt that is not otherwise hazardous. Industrial models have special fittings for cleaning walls, ceilings, ledges, machinery, and other hard-to-reach places where dust and dirt may accumulate.Special-purpose vacuums are useful for removing hazardous products. For example, vacuum cleaners fitted with HEPA (high-efficiency particulate air) filters may be used to capture fine particles of asbestos or fibreglass.Dampening (wetting) floors or using sweeping compounds before sweeping reduces the amount of airborne dust. The dust and grime that collect in places like shelves, piping, conduits, light fixtures, reflectors, windows, cupboards, and lockers may require manual cleaning.Compressed air should not be used for removing dust, dirt, or chips from equipment or work surfaces.Employee FacilitiesEmployee facilities need to be adequate, clean and well-maintained. Lockers may be necessary for storing employees' personal belongings. Washroom facilities require cleaning once or more each shift. They also need to have a good supply of soap, towels plus disinfectants, if needed.If workers are using hazardous products, employee facilities should provide special precautions as needed such as showers, washing facilities and change rooms. Some facilities may require two locker rooms with showers between. Using such double locker rooms allows workers to shower off workplace contaminants and reduces the chance of contaminating their "street clothes" by keeping their work clothes separated from the clothing that they wear home.Smoking, eating or drinking in the work area should not be allowed where hazardous products are handled. The eating area should be separate from the work area and should be cleaned properly each shift.SurfacesFloors: Poor floor conditions are a leading cause of incidents so cleaning up spilled oil and other liquids at once is important. Allowing chips, shavings, and dust to accumulate can also cause incidents. Trapping chips, shavings and dust before they reach the floor or cleaning them up regularly can prevent their accumulation. Areas that cannot be cleaned continuously, such as entrance ways, should have anti-slip flooring. Keeping floors in good order also means replacing any worn, ripped, or damaged flooring that poses a tripping hazard.Walls: Light-coloured walls reflect light while dirty or dark-coloured walls absorb light. Contrasting colours warn of physical hazards and mark obstructions such as pillars. Paint can highlight railings, guards and other safety equipment, but should never be used as a substitute for guarding. The program should outline the regulations and standards for colours.Maintain Light FixturesDirty light fixtures reduce essential light levels. Clean light fixtures can improve lighting efficiency significantly.Aisles and StairwaysAisles should be wide enough to accommodate people and vehicles comfortably and safely. Aisle space allows for the movement of people, products and materials. Warning signs and mirrors can improve sight lines in blind corners. Arranging aisles properly encourages people to use them so that they do not take shortcuts through hazardous areas.Keeping aisles and stairways clear is important. They should not be used for temporary "overflow" or "bottleneck" storage.Stairways and aisles also require adequate lighting.Spill ControlThe best way to control spills is to stop them before they happen. Regularly cleaning and maintaining machines and equipment is one way. Another is to use drip pans and guards where possible spills might occur. When spills do occur, it is important to clean them up immediately. Absorbent materials are useful for wiping up greasy, oily or other liquid spills. Used absorbents must be disposed of properly and safely.Tools and EquipmentTool housekeeping is very important, whether in the tool room, on the rack, in the yard, or on the bench. Tools require suitable fixtures with marked locations to provide an orderly arrangement. Returning tools promptly after use reduces the chance of it being misplaced or lost. Workers should regularly inspect, clean, and repair all tools and take any damaged or worn tools out of service.Waste DisposalThe regular collection, grading and sorting of scrap contribute to good housekeeping practices. It also makes it possible to separate materials that can be recycled from those going to waste disposal facilities.Allowing the material to build up on the floor wastes time and energy since additional time is required for cleaning it up. Placing scrap containers near where the waste is produced encourages orderly waste disposal and makes collection easier. All waste receptacles should be clearly labelled (e.g., recyclable glass, plastic, scrap metal, etc.).StorageGood organization of stored materials is essential for overcoming material storage problems whether on a temporary or permanent basis. There will also be fewer strain injuries if the amount of handling is reduced, especially if less manual material handling is required. The location of the stockpiles should not interfere with work but they should still be readily available when required. Stored materials should allow at least one metre (or about three feet) of clear space under sprinkler heads.Stacking cartons and drums on a firm foundation and cross-tying them, where necessary, reduces the chance of their movement. Stored materials should not obstruct aisles, stairs, exits, fire equipment, emergency eyewash fountains, emergency showers, or first aid stations. All storage areas should be clearly marked.Flammable, combustible, toxic and other hazardous materials should be stored in approved containers in designated areas that are appropriate for the different hazards that they pose. Storage of materials should meet all requirements specified in the fire codes and the regulations of environmental and occupational health and safety agencies in your jurisdiction. Fact sheet confirmed current: 2023-08-15 Fact sheet last revised: 2018-06-04 Back to top Saws are made in various shapes and sizes and for many uses. Use the correct saw for the job.Wear safety glasses or goggles, or a face shield (with safety glasses or goggles).Select a saw of proper shape and size for stock being used.Select a saw with the number of teeth per inch (TPI) in order to get the desired finish. For example: a coarse tooth blade (e.g., 2 or 3 TPI) should be used for thicker stock. 18 to 32 TPI should be used on thinner metals or plastic (0.5 cm or 1/4 inch). General wood cutting typically requires about 4 TPI.Choose a saw handle that keeps wrist in a natural position in the horizontal plane.Choose saw with a handle opening of at least 12 cm (5 in.) long and 6 cm (2.5 in.) wide and slanted at a 15 angle.Check the stock being cut for nails, knots, and other objects that may damage or buckle saw.Start the cut by placing your hand beside the cut mark with your thumb upright and pressing against blade. Start cut carefully and slowly to prevent blade from jumping. Pull upward until blade bites. Start with partial cut, then set saw at proper angle.Apply pressure on downstroke only.Hold stock being cut firmly in place.Use a helper, a supporting bench or vise to support long stock if required.Keep teeth and blades properly set.Protect teeth of saw when not in use.Keep saw blades clean. Back to top Select correct blade for material being cut.Secure blade with the teeth pointing forward. Tighten the nut until the blade is under tension.Keep blade rigid, and frame properly aligned.Cut using steady strokes, directed away from you.Use entire length of blade in each cutting stroke.Use light machine oil on the blade to keep it from overheating and breaking.Cut harder materials more slowly than soft materials.Clamp thin, flat pieces requiring edge cutting.Keep saw blades clean and lightly oiled.Do not apply too much pressure on the blade as the blade may break.Do not twist when applying pressure.Do not use when the blade becomes loose in the frame.Refer to OSH Answers General Hand Tool Operation for more tips. Fact sheet confirmed current: 2023-03-28 Fact sheet last revised: 2013-10-02 Back to top Hammers and other striking tools are widely used and often abused. Hammers are made for specific purposes in various types and sizes and with striking surfaces of varying hardness. For example, hammers are used for general carpentry, framing, nail pulling, cabinet making, assembling furniture, upholstering, finishing, riveting, bending or shaping metal, striking masonry drills and steel chisels, and so on. Hammers are designed according to the intended purpose.Select a hammer that is comfortable for you, and that is the proper size and weight for the job. Misuse can cause the striking face to chip, possibly causing a serious injury.Choose a hammer with a striking face diameter approximately 12 mm (0.5 inches) larger than the face of the tool being struck (e.g., chisels, punches, wedges, etc.).Choose a hammer with a cushioned handle to protect you from vibration, impact, and squeezing pressure.Use hammers with electrically insulated handles for work on or around exposed energized parts. Always de-energize and lock out energized equipment when possible.Ensure that the head of the hammer is firmly attached to the handle.Replace loose, cracked or splintered handles.Keep the work area clear of debris.Discard any hammer with a mushroomed or chipped face or with cracks in the claw or eye sections.Wear safety glasses or goggles or a face shield (with safety glasses or goggles).Strike a hammer blow squarely with the striking face parallel to the surface being struck. Always avoid glancing blows and over and under strikes. (Hammers with bevelled faces are less likely to chip or spall.)Look behind and above you before swinging the hammer. Keep enough clearance from fellow workers.Maintain a secure footing and keep a good balance while using a hammer. Back to top Do not use a hammer with a loose or damaged handle.Do not use handles that are rough, cracked, broken, splintered, sharp-edged or loosely attached to the head.Do not use hammers with sharp edges, as they can cut off circulation in your finger after long periods of use.Do not use any hammerhead with dents, cracks, chips, mushrooming, or excessive wear.Do not use a hammer for any purpose for which it was not designed or intended.Do not use one hammer to strike another hammer, other hard metal objects, stones or concrete.Do not use awkward positions when using the hammer to prevent strains.Do not redress, grind, weld or reheat-treat a hammerhead.Do not strike with the side or cheek of the hammer.Refer to OSH Answers General Hand Tool Operation for more tips. Fact sheet confirmed current: 2023-12-14 Fact sheet last revised: 2017-03-01

List the marking tools used in carpentry shop. Finish carpentry tools list. Japanese carpentry tools list. List some methods of maintenance of carpentry tools. Carpentry tools list with pictures pdf. Basic carpentry tools list. List the major tools used for carpentry works. Carpentry and joinery tools list. Carpentry tools list and uses. Carpentry power tools list. Carpentry tools list with pictures and uses. Carpentry tools and equipment list. Modern carpentry tools list. Carpentry tools list pdf. Professional carpentry tools list.

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