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| REQUIRED PERSONAL PROTECTIVE EQUIPMENT | | | | |
|  | **Wear appropriate laser safety glasses** to protect your eyes from light radiation | Hearing Protection circle | Wear earmuffs or earplugs to prevent damaging your hearing from machine noise |
|  | Turn on the machine extractor or wear a facemask to **prevent breathing in fumes** | Foot Protection circle | Wear sturdy shoes to protect your feet from falling material or dropped objects |
| Apron | Wear close fitting protective clothing to prevent it catching on moving parts | cid:image004.png@01D3E2E0.0EF671A0 | Tie back long and loose hair to prevent it catching on moving parts |
|  | Remove all rings and jewellery to prevent them catching on the machine or material | **C:\Users\CauchiA\Documents\D&T\shutterstock_196671263.jpg** | Remove all electronic devices to prevent distraction and them catching on moving parts |
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| DIODE LASER SAFE OPERATING PROCEDURE | | | | |
| ABOUT THE LASER Laser Classification: 4 - High power causing skin and eye injury from direct and reflected energy  Max Optical Power Output: 7.5w  Power Input: 12v  Wavelength: 445-465nm  Control: TTL – Transistor-Transistor Logic HAZARDS Hazards that may arise when operating laser cutting equipment include:   * Bodily exposure to the laser beam causing physical burns * Looking at the light emitted from the laser may cause severe eye damage * Prolonged exposure of material to the laser beam may cause ignition and start a fire * Burning or etching of certain material may produce toxic fumes which may cause harm to lungs if inhaled  MATERIALS THAT SHOULD NOT BE ETCHED OR CUT WITH A LASER Certain materials may spontaneously catch fire if exposed to the laser beam and should be avoided. The following materials are NOT safe to etch or cut. This list is only a guide and not exhaustive   * Leather and artificial leather containing chromium (VI) * Carbon fibers (Carbon) * Polyvinyl chloride (PVC) * Polyvinyl butyrate (PVB) * Polytetrafluoroethylenes (PTFE /Teflon) * Beryllium oxide * Any materials containing halogens (fluorine, chlorine, bromine, iodine and astatine), epoxy or phenolic resins  BEFORE YOU CONNECT POWER TO THE LASER | | | | |
| * Check that workspaces and walkways are clear of slip/trip hazards * Ensure a functioning and appropriate extinguisher and fire blanket is close by * Ensure you can quickly switch off power to both CNC and laser if needed * Locate and make sure you are familiar with all machine operations and controls * Ensure that all guards and safety devices are in position and secured * Make sure the laser module is attached to the mounting plate with both screws securely with the mounting plate secured to the CNC * Ensure that the laser module lens is pointing vertically down to the base board * Be aware of any other people in the area and make sure it is clear before using this equipment * Isolate the room by placing a sign on the door warning of laser operation and ensure that people cannot enter * Laser signal wires must be connected to the CNC controller * Position your material | | | | |
| WHILE LASER IS CONNECTED TO POWER  * Never leave the vicinity of a laser while connected to power * Ensure laser safety glasses are worn * Ensure there is proper ventilation of fumes * Ensure the area is secure from persons entering * Only operate the laser via computer control * Never pre-program your project beyond the capacity of the machine * Confirm all CNC programming before starting * Make sure material is secure to the work surface bed * Ensure all axis remain unobstructed during the cutting/engraving operation. * Never attempt to remove material from the work surface while the machining process continues | | | | |
| AFTER USE | | | | |
| * Wait for the laser to stop and power disconnected before removing the material and waste * Disconnect the laser power once you have finished your operation or if you are leaving the vicinity of the laser | | | | |