

CNC Machining Center & Lathe Shop Safety Checklist

Site / Project	_____	Address	_____
Inspector name	_____	Company	_____
Date	_____	Time	_____

Documentation aid only. Adapt this resource to the site, manufacturer instructions, and applicable local requirements. It does not replace a competent person, professional judgment, legal advice, or a required statutory form.

Inspection checklist

Machine Guarding and Safety Devices

☐	Verify all interlocked guards are functioning correctly, preventing machine operation when open. Test each guard daily.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect spindle guards for damage (cracks, dents, missing parts) that could compromise protection from rotating parts and ejected material.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Test all E-stop buttons to ensure immediate machine shutdown. Verify proper labeling and accessibility of E-stops.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	If equipped, confirm light curtains are operational and properly positioned to prevent access to hazardous areas during machine operation. Test response time.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	For machines with two-hand controls, verify simultaneous operation is required to initiate and maintain machine function. Check for bypass mechanisms.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	If applicable, ensure lathe chucks have a key interlock system or self-ejecting key to prevent accidental machine starts with the key in place.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Confirm fixed barrier guards are of adequate height and construction to prevent reaching over or around hazardous areas (minimum 6 feet recommended).	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify guards are designed to prevent easy adjustment or removal without tools, ensuring they remain in place during operation.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

☐	If equipped with presence-sensing device initiation (PSDI), ensure proper setup and daily testing according to manufacturer's specifications.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect for any signs of interlock bypass or tampering. Implement procedures to prevent unauthorized modification of safety devices.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

Coolant Mist and Air Quality

☐	Verify coolant mist collectors are operating effectively, with no visible mist escaping into the work area. Check filter pressure and airflow.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Review the mist collector filter maintenance schedule and confirm filters are replaced or cleaned according to manufacturer's recommendations.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Assess general ventilation in the shop to ensure adequate air exchange and removal of coolant mist and fumes. Use smoke tubes to visualize airflow.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Check coolant concentration levels to ensure they are within the manufacturer's recommended range. Improper concentration can increase mist generation.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify the coolant type is compatible with the materials being machined and the machine's components to prevent corrosion or other issues.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Conduct periodic air quality monitoring for coolant mist and other contaminants to ensure compliance with OSHA permissible exposure limits (PELs).	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect mist collector ductwork for leaks, damage, or obstructions that could reduce its effectiveness.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify the coolant sump is cleaned regularly to prevent bacterial growth and reduce mist generation. Follow proper disposal procedures for used coolant.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Confirm operators are trained on proper coolant handling, mist control techniques, and the use of mist collection equipment.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure the mist collector is properly grounded to prevent static electricity buildup, especially in areas with flammable coolants.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

Chip Management and Housekeeping

☐	Verify the chip conveyor is functioning correctly and effectively removing chips from the machine. Check for jams or obstructions.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure chip containers are properly labeled, emptied regularly, and stored in a designated area away from walkways and exits.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect chips for sharp edges or burrs and implement procedures for safe handling and disposal to prevent cuts and abrasions.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Maintain clean and dry floors around machines to prevent slips, trips, and falls. Clean up coolant spills and chip accumulation immediately.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure tools are stored in designated areas and organized to prevent tripping hazards and accidental contact with sharp edges.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Use compressed air safely for chip removal, with appropriate PPE (eye protection) and at a reduced pressure (below 30 psi) to prevent injury.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify operators are using appropriate PPE (gloves, eye protection, etc.) when handling chips to prevent cuts, abrasions, and eye injuries.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Implement procedures to prevent fire hazards associated with oily chips, including proper storage and disposal methods.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Follow the manufacturer's recommended maintenance schedule for the chip conveyor to ensure its continued safe and efficient operation.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure walkways and access points around machines are clear of chips, tools, and other obstructions to allow for safe passage.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

Personal Protective Equipment (PPE)

☐	Verify all operators and personnel in the area are wearing appropriate eye protection (safety glasses with side shields or face shields) at all times.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure operators are using appropriate gloves for the tasks being performed, protecting against cuts, abrasions, and chemical exposure.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify operators are wearing appropriate foot protection (safety shoes) to protect against falling objects and sharp materials.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

☐	Ensure hearing protection (earplugs or earmuffs) is readily available and used in areas where noise levels exceed 85 dBA.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Confirm operators are wearing appropriate clothing (no loose clothing, jewelry, or long hair) that could become entangled in rotating machinery.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect PPE for damage or wear and tear. Replace damaged PPE immediately.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify operators have been trained on the proper use, care, and maintenance of PPE.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	If respiratory protection is required (e.g., for specific coolant types), ensure a comprehensive respiratory protection program is in place, including fit testing and medical evaluations.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Provide designated storage areas for PPE to keep it clean and readily accessible.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Enforce PPE requirements consistently and address any non-compliance immediately.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

Electrical Safety

☐	Verify all machines and electrical equipment are properly grounded to prevent electrical shock hazards. Test grounding continuity.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Inspect power cords and cables for damage (fraying, cuts, exposed wires) and replace damaged cords immediately.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure electrical panels are accessible and clear of obstructions (minimum 3 feet of clearance).	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Verify electrical panels are properly labeled with circuit identification.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure lockout/tagout procedures are followed during maintenance and repair of machines to prevent accidental startup.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Use Ground Fault Circuit Interrupters (GFCIs) for portable electrical tools and equipment used in wet or damp locations.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Ensure only qualified personnel perform electrical work on machines and equipment.	☐ Pass	☐ Fail	☐ N/A	Notes: _____
☐	Conduct an arc flash hazard assessment and implement appropriate safety measures, including PPE and training.	☐ Pass	☐ Fail	☐ N/A	Notes: _____

☐ Minimize the use of extension cords and ensure they are properly sized for the load and not used as permanent wiring.	☐ Pass ☐ Fail ☐ N/A Notes: _____
☐ Verify the emergency power-off switch is easily accessible and functioning correctly to de-energize equipment in an emergency.	☐ Pass ☐ Fail ☐ N/A Notes: _____

Findings

#	Item	Location	Severity	Action required
1				
2				
3				
4				
5				
6				
7				
8				

Signature

Inspector signature _____

Name _____

Date _____