

## RISK ASSESSMENT

<b>Title:</b>	Milling Machines	<b>Date of Assessment:</b>	07/09/2022	<b>Risk Assessor:</b>	Dan Carver
<b>Reference Number:</b>	RA99	<b>Version Number:</b>	2	<b>People involved in making this assessment:</b>	Dan Carver
<b>Task/Process:</b>	Using Milling Machines in Engineering	<b>People at Risk:</b>	Employees, visitors and contractors		
<b>Documents Associated with this Risk Assessment:</b>					
<b>Review Date:</b>	30/07/24	<b>Reviewer:</b>	Ian Warne	<b>Next Review Date:</b>	30/07/25

<b>Hazard:</b> Manual Handling	Risk of musculoskeletal injuries from poor manual handling of material, fixtures, vice and chucks. Risk to employees.
<b>Control Measures:</b>	
1.	Lifting equipment provided where necessary
2.	All staff trained in manual handling (training reviewed)
3.	Two person lift when required
4.	Ensure the working zone is clear from obstacles and trip hazards and has plenty of space and light
5.	Instruction, information, training and supervision

<b>Hazard:</b> Slips and Trips	Risk of musculoskeletal injuries. Risk to employees, visitors and contractors.
<b>Control Measures:</b>	
1.	Ensure the working zone is clear from obstacles and trip hazards and has plenty of space and light
2.	Spills of coolant or oil cleaned immediately
3.	Proper lighting and space around the machine
4.	Work area to be kept clean and tidy
5.	Leads, cables, airline and hoses kept safe and not to cause a trip hazard
6.	Instruction, information, training and supervision

<b>Hazard:</b> Ejected tools and materials from breakages, improper fixing or use	Risk of puncture, cuts, abrasions and musculoskeletal injuries. Risk to employees, visitors and contractors
<b>Control Measures:</b>	
1.	Guards in place
2.	PPE worn, eye protection and suitable clothing

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3.	Correct tooling used and inspection of tools prior to use to ensure in a safe usable condition
4.	Damaged tooling recycled
5.	New tooling purchased regularly to prevent old, worn tools being used
6.	Correct training and supervision on speeds, feeds and machine capabilities
7.	Instruction, information, training and supervision

<b>Hazard:</b> Oil, coolant and machine oils and bacterial infections		Risk of dermatitis, skin infections, cancers, stomach and lung infections. Risk to employees, visitors and contractors
<b>Control Measures:</b>		
1.	Splash guards and machine guards in place	
2.	Gloves worn and regular hand washing procedures	
3.	Where possible dry machining process used	
4.	If coolant is used, then pressure is kept low when possible to avoid spray and mist	
5.	Tooling heat reduced by proper machining speeds and feeds	
6.	No eating or drinking at the machines to avoid ingestion	
7.	Coolant used which is chlorine and formaldehyde free	
8.	Operators shown 'working safely with metal working fluids guide for employees'	
9.	Overalls and protective clothing used to avoid prolonged skin contact	
10.	Oil rags not stored in pockets	
11.	Tramp oil inspection and coolant checked in monthly maintenance	
12.	Instruction, information, training and supervision	

<b>Hazard:</b> Catastrophic machine failure, debris and ejected machine components		Risk of puncture, cuts, burns, abrasions and musculoskeletal injuries. Risk to employees, visitors and contractors
<b>Control Measures:</b>		
1.	Monthly maintenance and inspections of all critical components	
2.	Any abnormal noise and vibration from the moving parts or leakage of fluids from hoses or lines to be reported immediately to supervisor/manager and machine turned off, isolated, locked off and not used until fault diagnosed and repairs carried out	
3.	Only competent trained employees to carry out repairs or outsourced to trained professionals	
4.	Where possible original parts used or approved spares	
5.	Old unsafe machinery replaced with up to date compliant machines or modified to be compliant	
6.	Instruction, information, training and supervision	

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<b>Hazard:</b> Electricity	Risk of electric shock, burns and death. Electrical faults could lead to fires. Risk to employees, visitors and contractors
<b>Control Measures:</b>	
1.	Machines either connected to 3 phase circuit or RCD built in.
2.	All sockets have RCD's built in
3.	Heavier plant with armoured supply cables
4.	Cables kept away and tidy in armoured carriers
5.	Circuit boards and electrical units locked in the machine cabinet
6.	Electrical items regularly PAT tested as required
7.	Fixed wiring inspected every 3 years
8.	All faults to be reported to a supervisor/manager immediately
9.	Monthly inspections of sheath and cable connections
10.	Personal appliances to be approved before use
11.	Instruction, information, training and supervision

<b>Hazard:</b> Noise and Vibration	Risk of damage to hearing and permanent damage to hands and arms (HAVS). Risk to employees.
<b>Control Measures:</b>	
1.	Slower machining and correct speeds and feeds to reduce noise level and vibration
2.	Planned maintenance for machinery
3.	Hearing protection used
4.	Machines have a level of inbuilt vibration reduction devices
5.	Staff trained in noise safety and HAVs
6.	Instruction, information, training and supervision

<b>Hazard:</b> Automated functions of milling machines causing injury	Risk of crushing and skeletal damage. Risk to employees.
<b>Control Measures:</b>	
1.	Auto feed and CNC controller have limit switches to prevent over travel
2.	Exclusion areas around machine that warns of the bed/table movement
3.	Only staff trained in knowledge of limits and movement of the machine to operate
4.	Warning markings on the edges of moving surfaces
5.	Rapid movements in program kept to small distances where possible.



## **RISK ASSESSMENT**

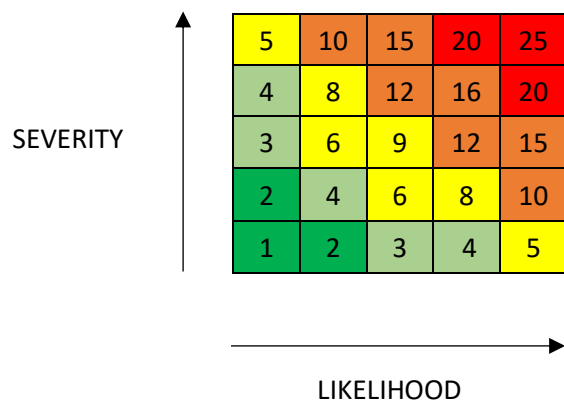
6.	Instruction, information, training and supervision
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I ..... (name) do hereby declare that I have received, understood and will abide by the contents of this Risk Assessment.

Signed: ..... Date: .....

## RISK ASSESSMENT

### HOW TO CALCULATE A RISK RATING



Likelihood	Severity
1 = extremely unlikely	1 = very minor injury
2 = unlikely	2 = first aid injury
3 = possible	3 = lost time injury
4 = likely	4 = hospital treatment
5 = very probable	5 = disabling injury

Risk rating	Action and timescale
15 and above	<b>Unacceptable</b> Work may not start. Additional controls must be introduced to reduce risk rating to below 9.
9-14	<b>Tolerable</b> Additional controls must be introduced as soon as possible.
5-8	<b>Tolerable</b> Additional controls may be needed
4 or below	<b>Acceptable</b>

1-4 =	Low risk
6-9 =	Medium risk
10-25 =	High risk