

Swansea Hackspace – Laser Cutter Risk Assessment

Version 1.3: 2024-08-12

Without risk reduction measures					With risk reduction measures			
Hazards and Associated Risks	People at Risk	L	C	R	Risk Reduction Measures	L	C	R
Fumes generated due to inappropriate material use	Operators, other room occupants	3	4	12	Extractor fan, venting outside building. List of permitted materials to be drawn up Machine only to be operated by competent persons	2	3	6
Smoke/Particulates generated during operation	Operators, other room occupants	4	2	8	Extractor fan, venting outside building. List of permitted materials to be drawn up Machine only to be operated by competent persons Extractor to be left running until unit is clear before opening lid	4	1	4
Fire – due to electrical fault	Operators, other building occupants	2	5	10	Machine not to be left unsupervised Machine to be taken out of use if damaged Machine to be visually inspected before use Appropriate fire extinguisher to be available at all times	1	2	2
Fire – due to inappropriate material use	Operators, other building occupants	3	5	15	List of permitted materials to be drawn up Machine only to be operated by competent persons Machine not to be left unsupervised Appropriate fire extinguisher to be available at all times	2	2	4
Laser Burns	Operators	2	4	8	Enclosure integrity to be checked before use Interlock operation to be checked regularly Machine only to be operated by competent persons	1	4	4
Electric Shock	Operators	2	5	10	Machine to be taken out of use if damaged Machine to be visually inspected before use Machine to be connected to RCD protected power supply	1	2	2
Blindness/Eye Injury due to laser beam or reflections	Operators	2	4	8	Enclosure integrity to be checked before use Interlock operation to be checked regularly Machine only to be operated by competent persons Reflective materials not to be placed within enclosure	1	4	4
Crush Injury due to spring loaded clamp	Operators	4	2	8	Machine only to be operated by competent persons	2	2	4

Likelihood / Frequency of Occurrence	L	Consequence / Severity of outcome	C
1 - RARE - Can't believe this will ever happen again		1 - NONE - No injury or adverse outcome	
2 - UNLIKELY - Do not expect it to happen but it is possible		2 - MINOR - Short term harm or damage (Injury that will be resolved in 1 month)	
3 - POSSIBLE - May recur occasionally		3 - MODERATE - Semi Permanent injury (Injury taking up to 1 Yr to resolve)	
4 - LIKELY - Will probably recur but is not a persistent issue		4 - MAJOR - Permanent harm (Loss of body part(s), RIDDOR reportable injury)	
5 - ALMOST CERTAIN - Likely to occur on many occasions		5 - CATASTROPHIC - Death.	