

# Risk Assessment

## RA060 – Noise & Vibration at Work – Use of a Die Grinder



ABI Equipment Ltd	Creation Date: 13/01/2022
Noise & Vibration at Work – Use of a Die Grinder	

Main Hazards are:	
Permanent noise induced hearing loss caused from noise produced from workshop tools	Temporary noise induced hearing loss caused from noise produced from workshop tools
Tinnitus caused from noise produced from workshop tools	Extreme tiredness due to tinnitus induced sleep problems
Accidents caused when an employee cannot hear safety instructions due to excessive noise	Accidents as the employee is unable to hear moving equipment or fire alarms.
Accidents caused when noise is a constant distraction	Tools causing injury when parts are ejected due to the vibration
Carpel Tunnel Syndrome (CTS)	Hand-arm vibration (HAV)
Persons / Property affected	
All Employees working outside the welding bay shutter door	Visitors to the building
All Employees moving around the workshop	Neighbours in adjoining buildings

Summary of Noise Assessment where measurement is over 80dB			
Location	Measurement (15m)	Distance from door	
CML Inspection May 2023	From 88 dB(A)	To 103 dB(A)	
Summary of Vibration Assessment if the HAVS ELV is above 5.0m/s <sup>2</sup>			
Vibration figure m/s <sup>2</sup>	From 2.42 m/s <sup>2</sup>	To 8.44 m/s <sup>2</sup>	
Time to reach EAV	From 22 mins	To 8 hrs 32 mins	
Time to reach ELV	From 2 hrs 48 mins	To >24 hrs	

Assessment of Risk:	Severity	3	X	Likelihood	4	= Risk	12
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Control Measures already in Place	PPE Required	
1. This risk assessment should be read in conjunction with RA044 General Noise at Work and RA043 Vibration at work	Safety helmets	<input type="checkbox"/>
2. Before use the employee should look up the EAV (Exposure Action Value) and the ELV (Exposure Limit Value) of the Die Grinder being used.	Hi-Vis Jackets	<input type="checkbox"/>
3. If there is a choice the Lowest vibration/decibel level Die Grinder should be used wherever possible	Safety footwear	<input checked="" type="checkbox"/>
4. The Die Grinder should not be used for more than 20 minutes at a time. Tasks should be alternated to reduce exposure to noise & vibration	Eye protection	<input checked="" type="checkbox"/>
5. The Die Grinder should preferably be used in the welding bay where possible. If the tool is used outside the welding bay, then screens and warning signed should be used to protect other staff from the noise	Dust masks	<input checked="" type="checkbox"/>
6. Consideration should be given as to whether a more suitable tool with lower noise and vibration levels can be used instead	Ear plugs	<input checked="" type="checkbox"/>
7. The Die Grinder must be suitable for the job in hand	Earmuffs	<input checked="" type="checkbox"/>
8. The Die Grinder must be inspected before use for any signs of damage or wear and tear. If damaged it should not be used	Gloves	<input checked="" type="checkbox"/>
9. Employees to record their exposure to noise and vibration on a task-by-task basis in the books provided.	Protective overalls	<input checked="" type="checkbox"/>
10. Gripping hard or applying force with the Die Grinder should be avoided	Gauntlets	<input checked="" type="checkbox"/>
	Harnesses	<input type="checkbox"/>
	Breathing apparatus	<input checked="" type="checkbox"/>
	Face Masks	<input checked="" type="checkbox"/>

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11. All hearing protection PPE must be suitable to the task in hand and should be inspected for damage and wear before use. If damaged the hearing protection should be disposed if and replaced.	
12. All equipment should be regularly serviced and maintained, and the maintenance should be planned in advance.	
13. Ensure the Die Grinder must have been PAT tested in the last 12 months	
14. The carbide tip should be	

<b>Assessment of Risk:</b>	Severity	3	X	Likelihood	3	= Risk	9
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Additional Controls required	PPE/Equipment
Employees to be trained to understand Vibration and noise at work	
Employees trained to notice the first signs of HAV and hearing impairment. Employees trained to notice the first signs of HAV <ul style="list-style-type: none"> <li>Tingling &amp; numbness in fingers</li> <li>Not being able to feel things with fingers</li> <li>Loss of strength in hands</li> <li>Tips of fingers going white then red with pain when cold and wet</li> <li>Unable to hear what other employees are saying</li> <li>People reporting TV and radio turned up too loud</li> <li> ringing in the ears or tinnitus</li> </ul>	
The Die Grinder should be assessed every 12-18 months for vibration and noise.	
The employee must be adequately trained and competent to use the Die Grinder	
Newly trained staff should be supervised until a suitable level of competency has been achieved	

<b>Assessment of Risk:</b>	Severity	3	X	Likelihood	2	= Risk	6
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Approval and Review		
Prepared by:	Cathy Sheehan	13/01/2022
Updated by	Ash Soliman	04/10/2024
Review by:	Ash Soliman	04/10/2024

RISK RATING = L x S			Hazard Severity (S)				
			1	2	3	4	5
			Negligible	Slight	Moderate	High	Very High
Likelihood (L)	1	Very Unlikely	LOW	LOW	LOW	LOW	LOW
	2	Unlikely	LOW	LOW	LOW	MEDIUM	MEDIUM
	3	Possible	LOW	LOW	MEDIUM	HIGH	HIGH
	4	Likely	LOW	MEDIUM	HIGH	HIGH	HIGH
	5	Very Likely	LOW	MEDIUM	HIGH	HIGH	HIGH

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Likelihood	
1. Very Unlikely	A freak combination of factors would be required for an accident/incident to occur
2. Unlikely	A rare combination of factors would be required for an accident/incident to occur
3. Possible	Could happen when accidental factors are present but otherwise unlikely
4. Likely	Not certain to happen but an additional factor may result in an accident/incident
5. Very Likely	Almost inevitable that an accident/incident would occur
Hazard Severity	
1. Negligible	Negligible injury, no absence from work
2. Slight	Minor injury requiring first aid
3. Moderate	Injury leading to a lost time accident
4. High	Involving a single person with a serious injury / death
5. Very High	Multiple persons with serious injury / death
Outcomes	
LOW	Score (1-6) May be acceptable. Annual Review to see if risks can be reduced further
MEDIUM	Score (8-10) Identify controls must be identified or specific method statement required
HIGH	Score (12-25) Task <b>must not</b> proceed. Senior Management to consider if the risks can be reduced by purchase of additional training, additional equipment, additional staff, additional signage, safe system of work, permit to work or radical changes in method.

Version Number	RA060-1024-1.0
Document location	M:\Health & Safety\Risk Assessments
Prepared by	Cathy Sheehan
Reviewed by	Ash Soliman
Next review Date	October 2027