RISK ASSESSMENT

(HAND ARM VIBRATION)

PROJECT / LOCATION:	DATE: 00-00-2024	DATE OF NEXT ASSESSMENT
Job No.		**00-00-2025**

TASK / ACTIVITY
HAND ARM VIBRATION

No.	Activities	Hazards	Risks	Risk Level			Risk Control Measures	Residual Risk			Remarks
				P R	S	E/H/ M/L/ N		P R	S	E/H/ M/L/N	
1	CIVIL & MEP WORKS	● Risk of chronic or acute vascular, neurological or muscular damage	● Prolonged or repetitive exposure to hand-arm vibration (HAV) can lead to conditions like Hand-Arm Vibration Syndrome (HAVS) or Carpal Tunnel Syndrome (CTS), which affect blood flow, nerves, and muscle function in the hands and arms. ● Chronic exposure can cause long-term, irreversible damage.	3	5	H	**Administrative Controls:** Implement a system to monitor vibration exposure times to ensure they remain below recommended limits. Train workers on symptoms of HAVS and encourage early reporting. **Engineering Controls:** Use low-vibration or anti-vibration tools where possible. **PPE:** Provide anti-vibration gloves, though they should be used as a supplementary measure. **Work Schedule Adjustments:** Rotate tasks to limit individual exposure time to vibration.	2	2	L	

2	CIVIL & MEP WORKS	• Use of percussive equipment such as concrete breakers, chipping hammers hammer drills etc.	• Percussive equipment generates high levels of vibration that can lead to acute or chronic HAV exposure. • Workers using these tools frequently are at risk of HAV-related disorders, especially when used over extended periods.	3	4	M	**Tool Selection:** Use percussive tools with built-in vibration-dampening technology or anti-vibration handles. **Limit Exposure:** Set time limits for using high-vibration tools and rotate operators. **Maintenance:** Ensure tools are regularly maintained to minimize excess vibration from worn or damaged components. **Training:** Train workers on the correct technique to minimize grip force and reduce transmitted vibration.	2	2	L	
3	CIVIL & MEP WORKS	• Use of vibrating equipment such as compactors, pokers levelling equipment etc.	• Vibrating equipment, especially if used over long periods, exposes users to constant vibrations, which can damage blood vessels, nerves, and muscles in the hands and arms.	3	5	H	**Use Low-Vibration Equipment:** Opt for compactors and vibrators designed with vibration-reducing technology. **Limit Daily Exposure:** Implement task rotation and breaks to reduce individual exposure time. **Proper Technique:** Train workers to hold vibrating tools lightly and avoid gripping tightly to reduce vibration transmission. **Monitor Exposure:**	2	2	L	

							Keep a log of equipment usage and ensure it aligns with safe exposure limits according to standards.				
4	CIVIL & MEP WORKS	● Use of rotating equipment such as radial saws or grinders etc.	Rotating equipment often produces moderate to high levels of vibration that can contribute to hand-arm vibration exposure, leading to potential HAVS over time.	3	4	M	**Regular Tool Maintenance:** Ensure blades and disks are sharp and properly aligned to reduce vibration. **Use of Anti-Vibration Accessories:** Equip tools with anti-vibration handles or support fixtures. **Exposure Control:** Limit duration of use and rotate tasks to reduce continuous vibration exposure. **Training and Technique:** Educate workers on correct grip and tool operation to minimize vibration effects.	2	2	L	
5	CIVIL & MEP WORKS	● Possible use of percussive impact equipment.	● Percussive impact equipment, such as nail guns and jackhammers, generates sudden, high-impact vibrations. ● This creates a significant risk of acute or chronic HAV-related injuries, particularly if equipment is used improperly or for extended periods.	3	4	M	**Tool Selection and Maintenance:** Use tools specifically designed to minimize impact vibration, and maintain them to prevent additional vibration from wear. **Limit Use Duration:** Set strict time limits for using percussive impact equipment and rotate tasks to avoid prolonged exposure. **Protective Equipment:**	2	2	L	

							Provide anti-vibration gloves, though they may only have limited effectiveness against high-impact tools. **Education:** Train workers on safe handling, proper posture, and grip techniques to reduce vibration impact.				
6	CIVIL & MEP WORKS	● Risk of chronic or acute vascular, neurological or muscular damage.	● Continuous exposure to high levels of vibration can cause significant damage to the vascular, neurological, and muscular systems in the hands and arms, leading to long-term conditions like HAVS.	3	4	M	**Administrative Controls:** Track and assess each worker's exposure to ensure they stay within safe daily vibration limits as per regulatory guidelines. **Engineering Controls:** Use advanced tools that reduce vibration levels, and keep equipment in optimal condition to avoid additional vibrations. **Rest Periods and Task Rotation:** Introduce scheduled breaks and alternate tasks to reduce continuous exposure to vibration. **Health Monitoring:** Implement regular health assessments, including pre-employment screening and periodic checks to monitor for early signs of HAVS.	2	2	L	

Risk Matrix

LIKELIHOOD	SEVERITY						
		Insignificant	Minor	Moderate	Serious	Major	Catastrophic
	1	1	2	3	4	5	6
	2	2	4	6	8	10	12
	3	3	6	9	12	15	18
	4	4	8	12	16	20	24
	5	5	10	15	20	25	30
	6	6	12	18	24	30	36

Consequences:

6 – Catastrophic – Multiple fatalities
5 – Major - Single Fatality
4 – Serious – Permanent disability
3 – Moderate – Lost Time Injury
2 – Minor – Medical Treatment
1 – Insignificant – First Aid Case

24 - 36	Extreme	Immediate action required, Activity should not to proceed in current form
15 - 20	High	Prompt action required, including interim actions. Activity should be modified to include remedial action and planning.
8 - 12	Medium	Schedule action including any interim countermeasures e.g. implement safe work procedures, signage, instructions
4 - 6	Low	Activity can operate subject to management and or modification,
1 - 3	Very Low/ Negligible	Risk almost certainly acceptable, no action required unless escalation of risk is possible

Likely Frequency:

Likelihood (of Adverse Event Occurring)			
	Description	**Health & safety**	**Environmental**
6	Almost certain or imminent	Occurs all the time	Continuous or will happen frequently
5	Highly likely	Common occurrence, Occurs multiple times in a year	Happens 5 – 10 times per year
4	Likely or could occur	Know to occur in the last 12 months	1 – 5 times per Year
3	Not likely, but possible	Has occurred in an industry worldwide	Once every 5 years
2	Unlikely	Has not occurred in over 10 years of the same activity	Not happened in over 10 years
1	Rare	Theoretically possible, but not expected to occur	theoretically possible, but not expected to occur

Prepared by: HSE Engineer	**Reviewed by: HSE Manager**	**Approved by:**

Sign:	Date:	Sign:	Date:	Sign:	Date: