

TOOLBOX TALK		HAND-ARM VIBRATION	B16
Reason	To protect workers from excessive exposure to hand-arm vibration at work. Prolonged exposure to hand-arm vibration can cause a range of symptoms, known as hand-arm vibration syndrome		
Why	Many workers do not appreciate the possible dangers from vibration		
Outline	This talk covers the effects, sources and steps that can be taken to reduce the risk from vibration		

Effects of vibration

1. Prolonged exposure to hand-arm vibration can damage blood vessels, nerves, tendons, ligaments, muscles and bones
2. Symptoms include tingling, pins and needles, loss of feeling in the fingers, pain and throbbing in the fingers, loss of manual dexterity, painful joints and in particular pain when the hands warm up after getting cold
3. Carpal tunnel syndrome (CTS) is also caused by hand-arm vibration, and causes severe nerve pains in the palm of the hands, which is often worse at night
4. The effects of hand-arm vibration are often irreversible, causing sufferers pain & loss of amenity for the rest of their lives
5. Victims are often unable to do up buttons, tie shoe laces or undertake many simple tasks
6. The symptoms may start as tingling in the hands, but will develop and worsen with continued exposure to vibration

Sources of vibration

1. Hand-arm vibration is generated by both rotating and percussive hand-held tools. Some tools (such as hammer drills) are both rotary and percussive.
2. We use a number of reinstatement tools that generate significant levels of vibration including:
 - a. Cut-off saws
 - b. Plate compactors
 - c. Trench rammers
 - d. Hydraulic and petrol breakers

How to avoid excessive vibration exposure

1. Employers should try to avoid the use of hand-held tools that generate vibration (for example, by using an excavator-mounted breaker rather than a hand-held breaker)
2. If it is not possible to avoid using hand-held tools, then low vibration or vibration reduced tools should be selected
3. When using vibrating tools, it is important to take regular breaks. If working in a cold environment, warm your hands up and exercise your fingers during breaks
4. Use a good technique when using hand-tools – do not apply excessive force, let the tool do the work
5. Keep hands warm and dry, such as by wearing gloves. However, do not rely on anti-vibration gloves as they have very little effect on vibration
6. If you experience any symptoms (such as pins and needles) tell your supervisor
7. If you have been given trigger time limits for vibrating tools, do not exceed them

Testing understanding: Suggested questions and discussions

1. What vibrating hand-held tools have you used on the sites you worked on?
2. What should you do during breaks to reduce the risk of HAVS?
3. How can your exposure to hand-arm vibration be reduced?
4. What must you do if you think you are experiencing early symptoms of HAVs?

THE LONG-TERM EFFECTS OF EXPOSURE TO VIBRATION CAN BE PERMANENT AND DISABLING. DON'T LET IT HAPPEN TO YOU.

REFERENCE	TBTB16/01	ISSUE NUMBER	02	ISSUE DATE	12/02/2019	PAGE	1 OF 3
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What the law says

- The Vibration Regulations require you to:
 - make sure that risks from vibration are controlled;
 - provide information, instruction and training to employees on the risk and the actions being taken to control risk; and
 - provide suitable health surveillance.
- The Vibration Regulations include an exposure action value (EAV) and an exposure limit value (ELV) based on a combination of the vibration at the grip point(s) on the equipment or work-piece and the time spent gripping it. The exposure action and limit values are:
 - a daily EAV of 2.5 m/s² A(8) that represents a clear risk requiring management; and
 - a daily ELV of 5 m/s² A(8) that represents a high risk above which employees should not be exposed.

What is the exposure point system? How can I calculate my points?

This table is a 'ready reckoner' for calculating daily vibration exposures. All you need is the vibration magnitude (level) and exposure time. The ready-reckoner covers a range of vibration magnitudes up to 40 m/s² and a range of exposure times up to 10 hours. The exposures for different combinations of vibration magnitude and exposure time are given in exposure points instead of values in m/s² A(8). You may find the exposure points easier to work with than the A(8) values:

Exposure points change simply with time: twice the exposure time, twice the number of points;

Exposure points can be added together, for example where a worker is exposed to two or more different sources of vibration in a day;

The exposure action value (2.5 m/s² A(8)) is equal to 100 points; the exposure limit value (5 m/s² A(8)) is equal to 400 points.

Vibration magnitude, a_{hw} (m/s ²)	Exposure time, T										
	5 min	15 min	30 min	1 h	1 h 30 min	2 h	3 h	4 h	5 h	6 h	
40	265	800									Above exposure limit value
30	150	450	600								Likely to be at or above limit value
25	105	315	420	630							Above exposure action value
20	67	200	260	390	510	680					Likely to be at or above action value
19	60	180	240	360	480	640	800				Below exposure action value
18	54	160	215	325	435	580	720	880			
17	48	145	195	295	395	525	660	810	960		
16	43	130	175	265	355	470	590	730	880	1000	
15	38	115	155	235	315	415	515	635	770	900	
14	33	98	135	205	275	365	455	565	685	800	
13	28	85	115	175	235	315	395	485	595	700	
12	24	72	100	150	200	270	340	420	510	600	
11	20	61	85	125	165	220	280	350	430	510	
10	17	50	70	105	140	185	240	300	360	430	
9	14	41	58	88	118	155	200	255	315	375	
8	11	32	46	70	95	125	165	210	260	310	
7	8	25	36	55	75	100	135	175	220	265	
6	6	18	27	42	57	75	100	130	165	200	
5.5	5	15	23	35	47	63	85	110	140	170	
5	4	12	18	28	37	50	68	88	110	135	
4.5	3	10	15	23	31	41	55	70	88	105	
4	3	8	12	18	24	32	43	55	68	82	
3.5	2	6	9	14	19	25	33	42	52	63	
3	2	5	8	12	16	21	28	36	45	54	
2.5	1	3	5	8	11	14	19	24	30	36	
2	1	2	4	6	8	10	14	18	22	27	
1.5	0	1	2	3	5	7	9	12	15	18	
1	0	1	1	2	3	4	6	8	10	12	

Using the Ready Reckoner

- Find the vibration magnitude (level) for the tool or process (or the nearest value) on the grey scale on the left of the table.
- Find the exposure time (or the nearest value) on the grey scale across the bottom of the table.
- Find the value in the table that lines up with the magnitude and time. The illustration shows how it works for a magnitude of 5 m/s² and an exposure time of 3 hours: in this case the exposure corresponds to 150 points.
- Compare the points value with the exposure action and limit values (100 and 400 points respectively). In this example the score of 150 points lies above the exposure action value.

The colour of the square containing the exposure points value tells you whether the exposure exceeds, or is likely to exceed, the exposure action or limit value.

- If a worker is exposed to more than one tool or process during the day, repeat steps 1 – 3 for each one, add the points, and compare the total with the exposure action value (100) and the exposure limit value (400).

What are the vibration magnitudes (level) of the tools you use?

Tool	Brand	Model	Vibration Magnitude (m/s ² r.m.s)	Mins to EAV	Mins to ELV	Exposure Points/Hr
Cut Off Saw	Stihl	TS410	3.9	197	789	30
Rammer (4 Stroke)	Bomag	BT60/4	8.1	46	183	131
Petrol Plate Compactor (14")	Bomag	BVP10/36	4.3	162	649	37
Petrol Breaker	Atlas Copco	Cobra MK1	2.3	567	1440	11
Hydraulic Breaker	Atlas Copco	LH230E	4.6	142	567	42
Pedestrian Roller	Terex	MBR71	5.5	99	397	61

What job roles are at risk? Does my employer carry out monitoring?

- There is no legal requirement for **continual** monitoring and recording of vibration exposure. What employers must do is decide what workers exposure is likely to be as part of a vibration risk assessment. USS have carried out a period of sample monitoring to help understand how long workers use particular tools in a typical day and those findings are listed below (note these are points per team not points per man)

Job Role / Process	Avg Points / Team	Max Points / Team
Grab Team	143	186
Tarmac Team	144	161
White Team	<10	<10

- The findings in the table above show that our white workers were safely below the EAV on every sampling day. This job role is considered low risk for vibration exposure but workers and managers should use the ready reckoner to assess any large or non-standard works to avoid excessive exposure. The risk assessment for handheld vibrating tools should still be adhered with.
- Survey results for both grab teams and tarmac teams provide results above the EAV for a single man, but below ELV level. These job roles are considered moderate risk. These teams contain at least two team workers and therefore as long as tasks are rotated, as per the risk assessment, then each team members will remain below the EAV.

Health Surveillance

- Employers must provide health surveillance for all employees who, despite action to control the risk, are likely to be regularly exposed above the Exposure Action Value or are considered to be at risk for any other reason. The purpose of health surveillance is to:
 - Identify anyone exposed or about to be exposed to hand-arm vibration who may be at particular risk, for example people with blood circulatory diseases such as Raynaud's Disease;
 - Identify any vibration-related disease at an early stage in employees regularly exposed to hand-arm vibration;
 - Help you prevent disease progression and eventual disability;
 - Help people stay in work;
 - Check the effectiveness of your vibration control measures.
- It is important that employees understand that the aim of health surveillance is to protect them from developing advanced symptoms of ill health so that they can continue to work. Their understanding and co-operation is of the utmost importance if health surveillance is to be effective.
- If there are particular workers who, following medical advice, have restrictions placed on their vibration exposure, then a daily monitoring system may be introduced to ensure that that restricted level was not being exceeded. A similar system might be introduced for non-standard works involving vibration exposure.

USSL Risk Assessment

Risk Assessment No		24	Activity		Use of Vibrating Hand-Held - Hand-Guided Tools		Locations		Site Works		
Assessment Undertaken by		M. Watson	Assessment Date		Jun-18		Review Date		1/6/19		
Risk Ratings											
Persons at risk (PAR)		Severity / Harm Rating (S)				Likelihood (L)					
E	Employees / Contractors	1	Negligible injury or no injury			1	Extremely unlikely to occur at any time				
P	Members of Public	2	Minor injury requiring First Aid			2	A rare combination of factors would be required for an incident to occur				
V	Visitors	3	Lost time injury			3	Could happen, but considered unlikely under normal circumstances				
C	Clients	4	Single serious injury or single death			4	Not certain, but an additional factor may result in an incident				
		5	Multiple deaths and or serious injuries			5	Almost inevitable that an incident will result - Highly likely to occur				
Tolerance rating											
15 - 25		DANGER - Task/activity should not proceed. Further control measures are to be put in place to reduce risk. When in place the level of risk should be re-assessed for adequacy before the work recommences.									
7 - 14		SIGNIFICANT RISK is attached to this task/activity. Look critically at ways of reducing the level of risk to a more tolerable level by improving existing control measures or by introducing new controls.									
1 - 6		TOLERABLE RISK - Consider if risk is "as low as reasonably practicable", If not try to reduce risk further by improving control measures. Keep under review and continue with task/activity, but with caution									
NB. Full PPE will be utilised as a matter of course during any works undertaken											
Initial Assessment No controls						Risk Mitigation Measures					
Item No	Hazard Identification	PAR	S	L	Score	Control Measures	S	L	Revised Score	Risk Acceptable	
1	Contraction of the following diseases caused by regular exposure to HAVS: Vibration White Finger. Carpal Tunnel Syndrome. Permanent painful numbness and tingling in the hands and arms. Painful joints and muscle weakening . Damage to bones in the hands and arms.	E	3	4	12	Consider using other tools or methods or reducing the need for the use of hand-held/hand guided tools Ensure that the hand-held /hand guided tools are suitable for the intended task Ensure that the hand-held/hand guided tools are used only for the conditions for which they are suitable. Ensure that the hand-held/hand guided tools are operated by personnel who are trained to use them Ensure that the hand-held/hand guided tools are maintained throughout their working life in order to sustain their best vibration performance. Attention should be paid to sharpening of tools, ensuring that stihl saw and floor saw blades should be changed when blunt Site supervisors must monitor the use of hand-held/hand guided tools in order to ensure that they are being used correctly Ensure that job rotation is implemented in order to reduce exposure times. Ensure that the hand-held/hand guided tools are used in times specified in the attached guidance. Only use anti-vibration jackhammers during excavation works. All employees must complete the Medical Questionnaire upon recruitment Regular health surveillance for all employees	3	2	6	Yes	
2	Petrol Breaker (Atlas Copco Cobra MK1)	E	3	3	9	Rotate work, keep hands and arms warm 2.3 m/s2, Mins to EAV: 567, Mins to ELV: 1440 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	
3	Hydraulic Breaker (Atlas Copco LH230E)	E	3	3	9	Rotate work, keep hands and arms warm 4.6 m/s2, Mins to EAV: 142, Mins to ELV: 567 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	
4	Cut Off Saw (Stihl TS410)	E	3	3	9	Rotate work, keep hands and arms warm 3.9 m/s2, Mins to EAV: 197, Mins to ELV: 789 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	
5	Trench Rammer (Bomag BT60/4)	E	3	4	12	Rotate work, keep hands and arms warm 8.1 m/s2, Mins to EAV: 46, Mins to ELV: 183 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	
6	14" Plate Compactor (Bomag BVP10/36)	E	3	3	9	Rotate work, keep hands and arms warm 4.3 m/s2, Mins to EAV: 162, Mins to ELV: 649 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	
7	Single Drum Pedestrian Roller (Terex MBR71)	E	3	4	12	Rotate work, keep hands and arms warm 5.5 m/s2, Mins to EAV: 99, Mins to ELV: 397 Do not smoke during operation Regularly rub hands together in order to encourage good blood circulation	3	1	3	Yes	

Safety First

Nixon Hire are committed to putting safety first in all we do.



HAV Guidance

Nixon Hire provide the latest tools and equipment to minimise the exposure of Hand and Arm Vibration. We comply with HSE guidance for the Control of vibration at work regulations 2005 and advise customers to use the informative HSE website for additional guidance and advice.

HSE website: <http://www.hse.gov.uk/VIBRATION>

A helpful tool available is the simple to use calculator which allows the viewer to calculate and plan how the risk of using vibration producing tools will affect the user.

What is Hand-Arm Vibration?

Hand-arm vibration is vibration transmitted into workers' hands and arms. This can come from use of hand-held power tools (such as grinders or road breakers), hand-guided equipment (such as powered lawnmowers or pedestrian controlled floor saws) or by holding materials being worked by hand-fed machines (such as pedestal grinders or forge hammers). Regular and frequent exposure to hand-arm vibration can lead to two forms of permanent ill health known as: hand-arm vibration syndrome (HAVS); and carpal tunnel syndrome (CTS).

What the law says

The Vibration Regulations require you to:

Make sure that risks from vibration are controlled; provide information, instruction and training to employees on the risk and the actions being taken to control risk; and provide suitable health surveillance.

The Vibration Regulations include an exposure action value (EAV) and an exposure limit value (ELV) based on a combination of the vibration at the grip point(s) of the equipment or work-piece and the time spent gripping it. The exposure action and limit values are: a daily EAV of 2.5 m/s represents a clear risk requiring management a daily ELV of 5 m/s represents a high risk above which employees should not be exposed.

How can I control the risks from HAVS?

You can reduce vibration exposure by reducing one or both of the vibration transmitted to the hand and the time spent holding vibrating equipment or work-pieces. As in any operation, training is key to the correct use of equipment to ensure the user does not put themselves at risk through incorrect use. It is the hirer's responsibility to carry out a thorough HAV risk assessment.

ELV – Exposure Limit Value EAV – Exposure Action Value

These two factors define limits in which a user can use a hand held tool and for the length of time.

The Exposure Limit Value is what a tool user can be subjected to in a working day and must never be exceeded. Whilst exceeding this is not prohibited by law, this is the point in which a user will become at risk. This limit is set at 5.0m/s or 400 points. This is set on a typical 8 hour working day.

The **Exposure Action Value** is represented by numeric figures i.e. 2.5m/s or 100 points this is the current limit for EAV should a user be expected to exceed this figure a full risk assessment should be completed. This is a set to specified tasks.

How to use the EAV system

You can obtain the figure relating to EAV by using the table on page 5, which contains product descriptions, makes and models. E.g. Petrol Breaker - Atlas Copco MK1 - 2.3m/s. At this point the length of time required to complete a task needs to be ascertained. For example: 1 hour.

Then by using the coloured table below under the magnitude column you can find the magnitude reading closest to 2.3m/s. In this example, this is 2.5m/s. Follow the column along to 1 hour where you will find the number 13. This is the number of points the user will accrue when using an Atlas Copco MK1 for 1 hour.

Vibration magnitude, m/s ²	Exposure time, T									
	5min	15min	30min	1hr	1h30min	2hr	3hr	4hr	5hr	6hr
4.0	265	800								
3.0	150	450	900							
2.5	105	315	625	1250						
2.0	67	200	400	800	1200					
1.6	60	180	380	720	1100	1450				
1.8	54	160	325	650	970	1300				
1.7	48	145	290	580	865	1150				
1.6	43	130	255	510	770	1000				
1.5	38	115	225	450	675	900	1350			
1.4	33	98	195	390	590	785	1200			
1.3	28	85	170	340	505	675	1000	1350		
1.2	24	72	145	290	430	575	865	1150	1450	
1.1	20	61	120	240	365	485	725	970	1200	1450
1.0	17	50	100	200	300	400	600	800	1000	1200
9	14	41	81	160	245	325	485	650	810	970
8	11	32	64	130	190	255	385	510	640	770
7	8	25	49	98	145	195	295	390	490	590
6	6	18	36	72	110	145	215	290	360	430
5.5	5	15	31	61	91	120	180	240	305	385
5	4	12	25	50	73	100	150	200	250	300
4.5	3	10	21	41	61	81	120	160	205	245
4	3	8	16	32	48	64	96	130	160	190
3.5	2	6	13	25	37	49	74	98	125	145
3	2	5	9	18	27	36	54	72	90	110
2.5	1	3	6	13	19	25	38	50	63	75
2	1	2	4	8	12	15	24	32	40	48
1.5	0	1	2	5	7	9	14	18	23	27
1	0	1	1	2	3	4	8	8	10	12

Free information on both noise and HAV can be downloaded from the HSE website www.hse.gov.uk

Vibration Guide

Air Tools	Make	Model	Vib. Fig
Air Heavy Duty Breaker	MACDONALD	MACDONALD AIRTOOLS 28S-VR	4.6
Air Heavy Duty Breaker	MACDONALD	MACDONALD AIRTOOLS 28S-VRT	4.6
Air Clay Digger / Demolition Pick	MACDONALD	MACDONALD AIR TOOLS DP11VRS	5.2
Air Clay Digger / Demolition Pick	MACDONALD	MACDONALD AIRTOOLS DM11VRS	5.2
Air Hammer Drill	MACDONALD	MACDONALD AIRTOOLS DR4	5.3
Air Hammer Drill	MACDONALD	MACDONALD AIRTOOLS DR4S-VR	5.3
Tunnelling Pick	SULLAIR	SULLAIR SK12	6
Air Hammer Drill	CHICAGO PNEUMATICS	CHICAGO PNEUMATICS CP0009	21.2
Air Clay Digger / Demolition Pick	CHICAGO PNEUMATICS	CHICAGO PNEUMATICS CP0222	22
Breakers, Drills & Screwdrivers	Make	Model	Vib. Fig
Petrol Breaker	ATLAS COPCO	ATLAS COPCO COBRA MK1	2.3
Hilti Dx 460 Mx Powder Actuated Tool	HILTI	HILTI DX460 MX	2.5
Hilti Sd 5000 Drywall Screwdriver	HILTI	HILTI SD5000	2.5
Hilti St 1800 Metal Construction Screwdriver	HILTI	HILTI ST1800	2.5
Hilti Te 6-A36-Avr Cordless Rotary Hammer Drill	HILTI	HILTI TE 6-A36-AVR	2.5
Right Angle Drill	MAKITA	MAKITA 6300LR	2.5
Finishing Nailer	PASLODE	PASLODE IM65	2.6
Finishing Nailer	PASLODE	PASLODE IMPULSE IM65 F16	2.6
Framing Nailer	PASLODE	PASLODE IMPULSE IM350	3
Hydraulic Breaker Av	ATLAS COPCO	ATLAS COPCO LH23E	3.3
Hilti Dd 130 Diamond Drilling Tool	HILTI	HILTI DD130M	3.5
Hilti Dd 130 Rig	HILTI	HILTI DD-ST130	3.5
Hilti Ud 30 Universal Drill	HILTI	HILTI UD 30	3.5
Hydraulic Breaker Av	ATLAS COPCO	ATLAS COPCO LH230E	4.6
Hilti Dd 110-D Diamond Core Tool	HILTI	HILTI DD 110-D	5.8
Hilti Dd 130 Diamond Drilling Tool	HILTI	HILTI DD130	6
Hilti Te 1000-Avr Demolition Breaker	HILTI	HILTI TE1000 AVR	6.5
Hilti Te 300-Avr Breaker	HILTI	HILTI TE 300 AVR	7
Hilti Te 3000-Avr Demolition Breaker	HILTI	HILTI TE3000 AVR	7
Hilti Te 60-Atc Combi Hammer	HILTI	HILTI TE60 ATC	7.5
Hilti Te 80-Atc Combi Hammer	HILTI	HILTI TE 80-ATC	8.5
Hilti Te 500-Avr Breaker	HILTI	HILTI TE 500 AVR	10.1
Hilti Te 40-Avr Combi Hammer	HILTI	HILTI TE40 AVR	10.5
Hilti Te 40-Avr Combi Hammer	HILTI	HILTI TE35	10.7
Hilti Te 30-C-Avr Combi Hammer	HILTI	HILTI TE15	12
Hilti Te 30-C-Avr Combi Hammer	HILTI	HILTI TE16C	12
Hilti Te 30-C-Avr Combi Hammer	HILTI	HILTI TE30C AVR	12
Hilti Te 2 Rotary Hammer Drill	HILTI	HILTI TE2	13.5
Hilti Uh 700 Hammer Drill	HILTI	HILTI UH700	14.2
Hilti Te 2-A Cordless Rotary Hammer Drill	HILTI	HILTI TE2-A	14.5
Hilti Te 7-C Rotary Hammer Drill	HILTI	HILTI TE5	17
Hilti Te 7-C Rotary Hammer Drill	HILTI	HILTI TE7-C	17
Xcalibre Magnum	XCALIBRE	XCALIBRE MAGNUM 15	<2.5
Compaction Equipment	Make	Model	Vib. Fig
Plate Compactor - Petrol (16")	FAIRPORT	FAIRPORT FPC400	2.6
Plate Compactor - Petrol (18")	FAIRPORT	FAIRPORT FPC450	2.87
Plate Compactor C/W Water Sprinkler Petrol	FAIRPORT	FAIRPORT FPC320	3.04
Plate Compactor - Petrol (12")	FAIRPORT	FAIRPORT FPC320	3.04
Plate Compactor - Petrol (14")	BOMAG	BOMAG BP10/35	4.3
Plate Compactor - Petrol (14")	BOMAG	BOMAG BP10/36-2	4.3
Plate Compactor - Petrol (14")	BOMAG	BOMAG BVP10/36	4.3
Plate Compactor - Petrol (12")	WACKER	WACKER WP 1030	4.5
Plate Compactor Hd Reversible Diesel 400 - 550Mm	M.B.W	M.B.W GPR6SD	4.8
Plate Compactor Hd Reversible Diesel 551 - 650Mm	BOMAG	BOMAG BPR35/60D	5.7
Plate Compactor - Petrol (12")	BOMAG	BOMAG BP6/30	5.8
Plate Compactor C/W Water Sprinkler Petrol	BOMAG	BOMAG BVP18/45	5.8
Plate Compactor - Petrol (18")	BOMAG	BOMAG BVP18/45-2	5.8
Plate Compactor C/W Water Sprinkler Petrol	AMMANN	AMMANN APF1240	6.2
Plate Compactor Hd Reversible Diesel 400 - 550Mm	BOMAG	BOMAG BPR25/40D	6.2
Plate Compactor Hd Reversible Diesel 400 - 550Mm	BOMAG	BOMAG BPR35/42D	6.2
Plate Compactor Hd Reversible Diesel 400 - 550Mm	BOMAG	BOMAG BPR35/42DE	6.2
Rammer (4 Stroke)	BOMAG	BOMAG BT60/4	8.1
Rammer (4 Stroke)	BOMAG	BOMAG BT65/4	8.2
Plate Compactor - Petrol (18")	FAIRPORT	FAIRPORT PP46	8.57
Plate Compactor C/W Water Sprinkler Petrol	FAIRPORT	FAIRPORT PP33	8.77
Concrete Equipment	Make	Model	Vib. Fig
Easy Screed - Twin Handle	M.B.W	M.B.W WS500H	5
48" (1200Mm) Power Float	WHITEMAN	Whiteman BA4-8HMQP	6.3
36" (900Mm) Power Float	NORTON CLIPPER	Norton Clipper MTA36	6.6
36" (900Mm) Power Float	M.B.W	M.B.W F36/4H	7.5
48" (1200Mm) Power Float	M.B.W	M.B.W F46/H	7.5
Portable High Frequency Poker (4/Stroke)	M.B.W	M.B.W Portavibe	8.5
Saws Grinders & Cutters	Make	Model	Vib. Fig
Hilti Wsc 55 Circular Saw	HILTI	HILTI WSC 55	2.5
Hilti Wsc 85 Circular Saw	HILTI	HILTI WSC 85	2.5
Mitre Saw	MAKITA	MAKITA LS1013	2.5
Reciprocating Saw	MAKITA	MAKITA JR3050T	2.5
Mitre Saw	MAKITA	MAKITA LS1018L	2.5
Bench Saw - Wood	METABO	METABO TKHS315	2.5
12" (300Mm) Portable Cut Off Saw - 2/Stroke	STIHL	STIHL TS410	3.9
14" Portable Cut Off Saw	STIHL	STIHL TS460	3.9
Hilti Dcse 20 Wall Chaser	HILTI	HILTI DCSE 20	4.5
14" Portable Cut Off Saw	STIHL	STIHL TS700	4.5
Hilti Dcg 230-D Angle Grinder	HILTI	HILTI DCG230-D	5
14" Petrol Floorsaw	NORTON CLIPPER	NORTON CLIPPER C99	5.3
Hilti Dag 125-S Angle Grinder	HILTI	HILTI DAG 125-S	5.7
Hilti Dc 125-S Angle Grinder	HILTI	HILTI DC125-S	5.7
Hilti Dcg 125-S Angle Grinder	HILTI	HILTI DCG125-S	5.7
12" (300Mm) Portable Cut Off Saw - 2/Stroke	STIHL	STIHL TS400	6.8
Hilti Wsj 750-Et Jigsaw	HILTI	HILTI WSJ750ET	10.5
Hilti Wsj 750-Et Jigsaw	MAKITA	MAKITA 4329	10.5
Petrol Bench Saw - Masonry	NORTON CLIPPER	NORTON CLIPPER CM401	<2.5
Bench Saw - Masonry	NORTON CLIPPER	NORTON CLIPPER CM41	<2.5
18" Petrol Floorsaw	NORTON CLIPPER	NORTON CLIPPER CS401	<2.5
18" Petrol Floorsaw	NORTON CLIPPER	NORTON CLIPPER CS451	<2.5

Our key to required Safety items :



Hard Hat



Dust Mask

Consult
Vibration
Guide on
page 4/5Protective
Footwear

Gloves



Goggles

Ear
Defenders

COMPLIANCE

Nixon Hire are committed to putting safety first in all we do. We drive our company "Your Safety Is Our Priority" programme to ensure that all employees are dedicated to this goal. Your Safety is our Priority protects our customer as much as our own people as it is supported by a strong risk focused dynamic management system. Safety is the core of our operating practise and intrinsic to our Safety First culture. Nixon Hire operate 5 key Principles which drive our compliance culture:

- We do everything safely or not at all
- We minimise our environmental impact by managing resource, recycling and reducing waste
- We source quality sustainable goods and service from approved suppliers
- We only provide safe, compliant tools and equipment
- Our safe systems and procedures minimise hazards and reduce risk

MANUAL HANDLING

The Manual Handling Operations Regulations require employers to protect their employees as far as is reasonably practical from hazardous manual handling tasks and if they cannot be avoided, then assess the risk and take action to reduce the risk. All small plant is clearly labelled if over 25kg in weight. All Nixon Hire staff are fully trained in Pristine Condition Manual Handling techniques. This technique trains our team to assess each load before moving it manually and requires that they seek assistance if required.

LOLER

All equipment that falls under the Lifting Operations and Lifting Equipment Regulations (LOLER) is subject to thorough examination by independent engineer surveyors - certificates for such examinations are uploaded to our system and can be supplied with each hire. It is a legal requirement for LOLER inspections to be carried out on an annual basis. Six monthly LOLER inspections are required for any item used to lift personnel or items classified as lifting accessories.

NOISE

The Control of Noise Regulations 2005 came into force in April 2006. These regulations reduced the lower exposure action level to 80dB (A) and the upper exposure action level to 85dB (A). When purchasing new equipment we strive to obtain machines with the lowest possible noise levels.

FALLS FROM HEIGHT

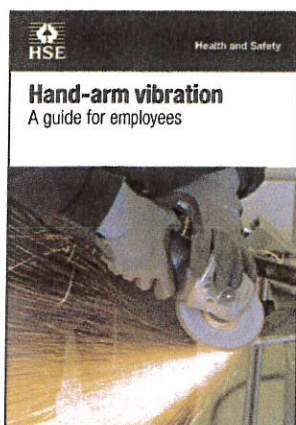
The most common fatality on construction sites continues to be related to falls from height. At Nixon Hire our staff are fully inducted and trained on the dangers of working at height. Fall prevention and protection is fitted and supplied with all our delivery vehicles, with all relevant staff being trained and competent in its use.

STAFF TRAINING

All of our staff undergo a comprehensive induction programme and the company operates continuous training for all staff including CPCs and CSCS for operational staff. Our in-house Practical Trainers ensure all operational staff are trained to the Company standard. Our Training department, through our National Plant qualified Practical Trainers also ensure all staff are trained and competent in their areas of expertise.

Hand-arm vibration

A guide for employees



This is a web-friendly version of leaflet INDG296(rev2), published 06/14

Introduction

This pocket card is aimed at people who use handheld powered work equipment or workpieces which vibrate while being processed by powered machinery, such as pedestal grinders.

What is hand-arm vibration?

Hand-arm vibration is vibration transmitted into your hands and arms when you use this equipment. It can cause hand-arm vibration syndrome (HAVS) and carpal tunnel syndrome (CTS).

What is hand-arm vibration syndrome?

HAVS:

- affects the nerves, blood vessels, muscles and joints of the hand, wrist and arm;
- can become severely disabling if ignored;
- includes vibration white finger, which can cause severe pain in the affected fingers.

What is carpal tunnel syndrome?

Carpal tunnel syndrome is a nerve disorder which may involve pain, tingling, numbness and weakness in parts of the hand and can be caused by, among other things, exposure to vibration.

How can I help reduce the risks?

It is your employer's responsibility to protect you against HAVS and CTS, but you should help by asking your employer if your job could be done in a different way without using vibrating tools and machines. If this cannot happen:

- ask to use suitable low vibration tools;
- always use the right tool for each job (to do the job more quickly and expose you to less hand-arm vibration);
- check tools before using them to make sure they have been properly maintained and repaired to avoid increased vibration caused by faults or general wear;
- make sure cutting tools are kept sharp so that they remain efficient;
- reduce the amount of time you use a tool in one go, by doing other jobs in between;

- avoid gripping or forcing a tool or workpiece more than you have to;
- store tools so that they do not have very cold handles when next used;
- encourage good blood circulation by:
 - keeping warm and dry, eg wear warm waterproof clothing;
 - giving up or cutting down on smoking because smoking reduces blood flow;
 - and
 - massaging and exercising your fingers during work breaks;
- report any problems with your hands promptly to your employer or the person who does your health checks;
- use any control measures your employer has put in place to reduce the risk of HAVS;
- ask your trade union safety representative or employee representative for advice.

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

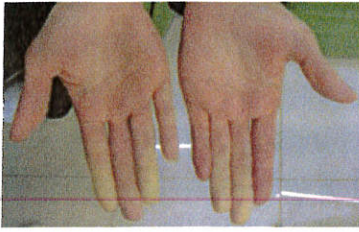
This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This pocket card is available at: www.hse.gov.uk/pubns/indg296.htm.

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KEY POINTS



SYMPTOMS

- Tingling and numbness in the fingers- loss of feeling.
- Loss of strength in the hands (less able to pick up or hold heavy objects)
- In the cold and wet your fingers turn white (blanching) and becoming red and painful on recovery.

THE RISKS

- You are at risk if you regularly use hand-held or hand-guided vibratory power tools.
- Uncontrolled exposure can result in painful and disabling disorders of the blood vessels, nerves and joints of the hand, wrist or arm.
- HAVS caused by exposure to vibration at work is preventable, but **once the damage is done it is usually permanent & disabling.**

COMMON VIBRATORY TOOLS



CONTROLS -

- Use the correct tooling for the task and make sure it is in good order.
- Never force the tool this will result in you absorbing more vibration.
- Keep within your HSE points allowance exposure limit.
- Keep hands warm, wear dry gloves.
- Remember to record your daily usage on the NGN App.
- Rotate the task to have a break from exposure before you reach 100 points.



PLAN YOUR WORK The most efficient and effective way of controlling exposure to hand-arm vibration is to look for new or alternative work methods which eliminate or reduce exposure to vibration.
Use mechanical plant (Examples: Hydraulic Pecker/ Hornet Drills)



We measure vibration using the HSE Points Ready Reckoner below :

Vibration magnitude, a_{rw} (m/s^2)	Exposure time, T									
	5 min	15 min	30 min	1 h	1 h 30 min	2 h	3 h	4 h	5 h	6 h
40	265	301	337	373	409	445	481	517	553	589
30	150	169	188	207	226	245	264	283	302	321
25	105	115	125	135	145	155	165	175	185	195
20	67	72	77	82	87	92	97	102	107	112
19	60	65	70	75	80	85	90	95	100	105
18	54	59	64	69	74	79	84	89	94	99
17	48	53	58	63	68	73	78	83	88	93
16	43	47	52	57	62	67	72	77	82	87
15	38	42	47	52	57	62	67	72	77	82
14	33	37	41	46	51	56	61	66	71	76
13	28	32	36	40	45	50	55	60	65	70
12	24	27	30	34	38	42	46	50	54	58
11	20	23	26	29	33	37	40	44	48	52
10	17	19	22	25	28	31	34	38	41	45
9	14	16	18	21	24	27	30	33	36	39
8	11	13	15	17	20	22	25	27	30	33
7	8	10	12	14	16	18	21	23	25	28
6	6	8	10	12	14	16	19	21	23	26
5.5	5	7	9	11	13	15	18	20	23	25
5	4	6	8	10	12	14	17	19	22	24
4.5	3	5	7	9	11	13	16	18	21	23
4	3	4	6	8	10	12	15	17	20	22
3.5	2	3	5	7	9	11	14	16	19	21
3	2	3	4	6	8	10	13	15	18	20
2.5	1	2	3	5	7	9	12	14	17	19
2	1	2	3	4	6	8	11	13	16	18
1.5	0	1	2	3	5	7	10	12	15	17
1	0	1	1	2	3	4	7	9	11	13

Above limit value
Likely to be above limit value
Above action value
Likely to be above action value
Below action value

The illustration shows how it works for a magnitude of 5 m/s^2 and an exposure time of 3 hours: in this case the exposure corresponds to 150 points.

1. Find the vibration (level) for the tool or process (or the nearest value) on the grey scale on the left of the table.
2. Find the exposure time (or the nearest value) on the grey scale across the bottom of the table.
3. Find the value in the table that lines up with the magnitude and time.
4. Compare the points value with the exposure action and limit values (100 and 400 points respectively). In this example the score of 150 points lies above the exposure action value. The colour of the square containing the exposure points value tells you whether the exposure exceeds, or is likely to exceed, the exposure action or limit value:
5. If a worker is exposed to more than one tool or process during the day, repeat steps 1 – 3 for each one, add the points, and compare the total with the exposure action value (100) and the exposure limit value (400)

Questions & Answers

Q. How many vibration points can you have in a normal 8 hour shift ?

A. You are allowed 400 HSE points if you do not have any restrictions but always try to stay below this allowance.

Q. When should I change rotate my task ?

A. You should rotate your task ideally before you reach 100 points. (80-90 best practice)

Q. What tools give off the most vibration ?

A. Rock drills, Road Breakers, Compaction Rammers & large Core drills are associated with high vibration levels so you should limit exposure as much as possible when using these tools.

Q. What should I look out for when I am using work equipment to prevent HAV's ?

A. You should ensure that the tool is working normally for the task, if it is vibrating heavily you need to stop using the equipment and report this to your manager.

Q. What if I have been diagnosed with HAV's ?

A. Your manager needs to sit down with you and complete a "Record of Discussion" so you are both aware of your restrictions and agree a course of action to prevent further over exposure.

Q. What do I need to do if I start suffering from the symptoms before my next health screening session ?

A. You must report any symptoms to your manager immediately.