

## **Estates Development and Projects**

---

### Vibration Policy

The following describes how the Estates Division will discharge its duties under the Control of Vibration at Work Regulations 2005 (the Vibration Regulations) in regards to common construction tasks that can create vibration. Excessive exposure to tools that create high levels of vibration can lead to permanent damage with the most common ill health effect being hand-arm vibration. Any regular and frequent exposure to vibrating handheld tools can lead to two forms of permanent ill health known as:

- Hand-arm vibration syndrome (HAVS); and
- Carpal tunnel syndrome (CTS).

HAVS is preventable, but once the damage is done it is permanent. It can be serious and disabling, and nearly 2 million people are at risk. The damage from HAVS can include the inability to do fine work and cold weather can trigger painful finger blanching attacks. The costs to employees and to employers of inaction could be high and there are simple and cost-effective ways to eliminate risk of HAVS. The Control of Vibration at Work Regulations focuses on the elimination or control of vibration exposure with a long-term aim to prevent new cases of HAVS occurring and enable workers to remain at work without disability. 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.

It is our policy to ensure individuals are not exposed to vibration levels that exceed legal limits or manufacturer guidelines by eliminating risks where possible, reducing risk levels where elimination is not possible by the use of engineering controls where appropriate, for example remote controlled mechanical aids. The use of Personal Protective Equipment should be used as a last resort.

This will be achieved by following the hierarchy of control during the design and construction process as follows:-

- Reviewing designs to eliminate works which may create vibration where possible. For example, leaving and reusing, or designing around, existing block/brick/concrete walls, floors and plant bases.
- Where elimination is not possible, or practical, look at design options to reduce the vibration hazard. For example, limiting the quantity of demolition needed to achieve the Client's brief and by employing the best available plant and equipment that produces less vibration and mechanical work processes.
- Ensuring that tools have been properly maintained and repaired to avoid increased vibration caused by faults or general wear and making sure cutting tools are kept sharp so that they remain efficient.
- Advising operatives that 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/s<sup>2</sup> A(8) that represents a clear risk requiring management; and
  - A daily ELV of 5 m/s<sup>2</sup> A(8) that represents a high risk above which employees should not be exposed.

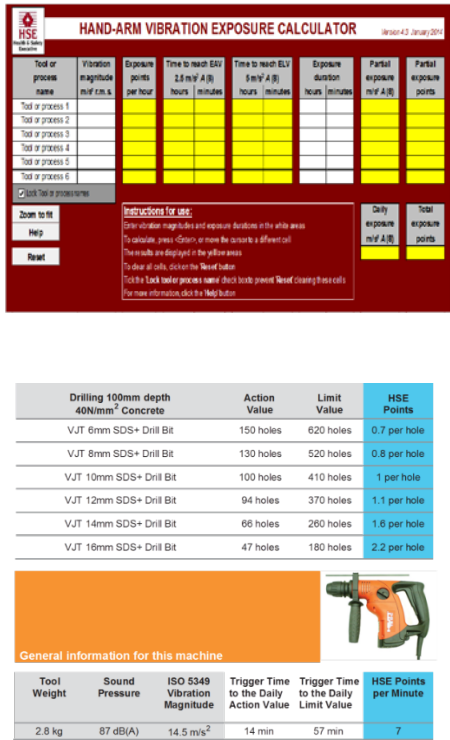
Simple steps that can be used by Supervisors when looking to control vibration on site are:

- Identify and assess the risks - understand each piece of equipment's rating, investigate alternative methods and create a hierarchy of control to concentrate on the highest risks.

Undertaking risk assessments and identifying practical vibration reducing measures before works commence along with discussion with operatives undertaking the task.

- Monitor and control - both the actual work and health surveillance for the operatives and documenting on a daily basis via the Daily Activity Briefings.
- Education - it is vital that everybody understands why we are doing this, and what the symptoms are. As a last resort, providing operatives with protection, as well as information, instruction and supervision.

The following are examples of construction industry best practice. ICL Estates will want to see evidence of these controls being used on our construction sites where elimination is not possible and vibration equipment/tools have to be resorted to:

Control Measures	Example image																																																																																																																											
<ul style="list-style-type: none"> <li>• For vibration activities, we will expect to see, as a minimum, fully informed RAMS, that note the type of equipment being used and the daily maximum trigger times highlighted. We will expect the operatives to be fully aware of their RAMS, the control measures to be used and the trigger times for the equipment being used.</li> <li>• It is also important that for health surveillance, any daily exposure is recorded and documented to show the amount of exposure to vibrating equipment.</li> </ul>	 <p><b>HAND-ARM VIBRATION EXPOSURE CALCULATOR</b> Version 4.3 January 2014</p> <table border="1"> <thead> <tr> <th rowspan="2">Tool or process name</th> <th rowspan="2">Vibration magnitude m/s<sup>2</sup> r.m.s.</th> <th rowspan="2">Exposure points per hour</th> <th colspan="2">Time to reach EU1 2.8 m/s<sup>2</sup> A (8)</th> <th colspan="2">Time to reach EU2 5 m/s<sup>2</sup> A (8)</th> <th colspan="2">Exposure duration</th> <th rowspan="2">Partial exposure m/s<sup>2</sup> A (8)</th> <th rowspan="2">Partial exposure points</th> </tr> <tr> <th>hours</th> <th>minutes</th> <th>hours</th> <th>minutes</th> <th>hours</th> <th>minutes</th> </tr> </thead> <tbody> <tr><td>Tool or process 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Tool or process 2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Tool or process 3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Tool or process 4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Tool or process 5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Tool or process 6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p><b>Instructions for use:</b> Enter vibration magnitude and exposure duration in the white areas. To calculate, press &lt;Enter&gt; or move the cursor to a different cell. The results are displayed in the yellow areas. To clear all cells, click on the 'Reset' button. To clear a task and/or process name, click inside, press 'Reset' (using this cell) or, for more information, click the 'Help' button.</p> <table border="1"> <thead> <tr> <th>Drilling 100mm depth 40N/mm<sup>2</sup> Concrete</th> <th>Action Value</th> <th>Limit Value</th> <th>HSE Points</th> </tr> </thead> <tbody> <tr><td>VJT 6mm SDS+ Drill Bit</td><td>150 holes</td><td>620 holes</td><td>0.7 per hole</td></tr> <tr><td>VJT 8mm SDS+ Drill Bit</td><td>130 holes</td><td>520 holes</td><td>0.8 per hole</td></tr> <tr><td>VJT 10mm SDS+ Drill Bit</td><td>100 holes</td><td>410 holes</td><td>1 per hole</td></tr> <tr><td>VJT 12mm SDS+ Drill Bit</td><td>94 holes</td><td>370 holes</td><td>1.1 per hole</td></tr> <tr><td>VJT 14mm SDS+ Drill Bit</td><td>66 holes</td><td>260 holes</td><td>1.6 per hole</td></tr> <tr><td>VJT 16mm SDS+ Drill Bit</td><td>47 holes</td><td>180 holes</td><td>2.2 per hole</td></tr> </tbody> </table> <p><b>General information for this machine</b></p> <table border="1"> <thead> <tr> <th>Tool Weight</th> <th>Sound Pressure</th> <th>ISO 5349 Vibration Magnitude</th> <th>Trigger Time to the Daily Action Value</th> <th>Trigger Time to the Daily Limit Value</th> <th>HSE Points per Minute</th> </tr> </thead> <tbody> <tr> <td>2.8 kg</td> <td>87 dB(A)</td> <td>14.5 m/s<sup>2</sup></td> <td>14 min</td> <td>57 min</td> <td>7</td> </tr> </tbody> </table>	Tool or process name	Vibration magnitude m/s <sup>2</sup> r.m.s.	Exposure points per hour	Time to reach EU1 2.8 m/s <sup>2</sup> A (8)		Time to reach EU2 5 m/s <sup>2</sup> A (8)		Exposure duration		Partial exposure m/s <sup>2</sup> A (8)	Partial exposure points	hours	minutes	hours	minutes	hours	minutes	Tool or process 1											Tool or process 2											Tool or process 3											Tool or process 4											Tool or process 5											Tool or process 6											Drilling 100mm depth 40N/mm <sup>2</sup> Concrete	Action Value	Limit Value	HSE Points	VJT 6mm SDS+ Drill Bit	150 holes	620 holes	0.7 per hole	VJT 8mm SDS+ Drill Bit	130 holes	520 holes	0.8 per hole	VJT 10mm SDS+ Drill Bit	100 holes	410 holes	1 per hole	VJT 12mm SDS+ Drill Bit	94 holes	370 holes	1.1 per hole	VJT 14mm SDS+ Drill Bit	66 holes	260 holes	1.6 per hole	VJT 16mm SDS+ Drill Bit	47 holes	180 holes	2.2 per hole	Tool Weight	Sound Pressure	ISO 5349 Vibration Magnitude	Trigger Time to the Daily Action Value	Trigger Time to the Daily Limit Value	HSE Points per Minute	2.8 kg	87 dB(A)	14.5 m/s <sup>2</sup>	14 min	57 min	7
Tool or process name	Vibration magnitude m/s <sup>2</sup> r.m.s.				Exposure points per hour	Time to reach EU1 2.8 m/s <sup>2</sup> A (8)		Time to reach EU2 5 m/s <sup>2</sup> A (8)		Exposure duration			Partial exposure m/s <sup>2</sup> A (8)	Partial exposure points																																																																																																														
		hours	minutes	hours		minutes	hours	minutes																																																																																																																				
Tool or process 1																																																																																																																												
Tool or process 2																																																																																																																												
Tool or process 3																																																																																																																												
Tool or process 4																																																																																																																												
Tool or process 5																																																																																																																												
Tool or process 6																																																																																																																												
Drilling 100mm depth 40N/mm <sup>2</sup> Concrete	Action Value	Limit Value	HSE Points																																																																																																																									
VJT 6mm SDS+ Drill Bit	150 holes	620 holes	0.7 per hole																																																																																																																									
VJT 8mm SDS+ Drill Bit	130 holes	520 holes	0.8 per hole																																																																																																																									
VJT 10mm SDS+ Drill Bit	100 holes	410 holes	1 per hole																																																																																																																									
VJT 12mm SDS+ Drill Bit	94 holes	370 holes	1.1 per hole																																																																																																																									
VJT 14mm SDS+ Drill Bit	66 holes	260 holes	1.6 per hole																																																																																																																									
VJT 16mm SDS+ Drill Bit	47 holes	180 holes	2.2 per hole																																																																																																																									
Tool Weight	Sound Pressure	ISO 5349 Vibration Magnitude	Trigger Time to the Daily Action Value	Trigger Time to the Daily Limit Value	HSE Points per Minute																																																																																																																							
2.8 kg	87 dB(A)	14.5 m/s <sup>2</sup>	14 min	57 min	7																																																																																																																							

- HAVi meters are simple to use. It clips to the tool using cable ties or a fabric strap. Supervisors then need to input the magnitude of the equipment being used. Supervisors will then brief the operator of the tool on how it is to be used and how the HAVi meter works. When the operator begins work the HAVi meter will display the accurate trigger time. As the time elapses the monitor will convert the data to display the actual HSE exposure calculator points that are accumulating over time when using the equipment. Once the work with the tool is complete, the operative will advise their Supervisor who will record the exposure information in the onsite logbook, before moving on to the next tool. As per HSE guidelines, if an operator exceeds 100 HSE points in one day the device triggers a warning light that flashes amber to advise the operator to take a break. The light will turn red advising the operator to stop if the critical 400 HSE points band is exceeded in any one day.
- The daily maximum trigger time allowed must be controlled by the Supervisor. If a trigger time is 4 hours but the task will take 6 hours to complete, the Supervisor should ensure that more than 1 operative is used to complete the task.



**Manufacturer Contact info:**

*THE HAVI, The Old School, Main Street,  
Awwsworth, Nottingham NG16 2QT*

*Tel: 0115 932 7002*

*Fax: 0115 932 7766*

*Email: info@thehavi.com*

You must provide health surveillance when exposures are at or above the EAV and in other circumstances where there is risk, for example, after diagnosis of HAVS and exposure continues but below the EAV. Health surveillance can involve just a short set of questions until, for example, signs or symptoms are reported. A health surveillance scheme (such as Constructing Better Health (CBH)) must include access to a competent occupational physician. Ensure that your providers have the right qualifications and training and that you will:

- Receive extensive feedback, including notification of fitness for work with HAV for each employee under health surveillance;
- Receive health surveillance feedback for employees including status of condition for fitness to work;
- To be regularly informed of new or deteriorating cases of HAVS that are being diagnosed;
- Information related to employees must not be shared unless consent is given by the employee.

You must report cases of HAVS and CTS under RIDDOR 2013. Appropriate health surveillance reports will permit prompt action by you to revise your controls, when finding new cases or worsening of existing cases. This will help keep skilled people in work and should prevent disability or worsening of existing conditions.

Health records containing information on the outcomes of health surveillance and fitness for work should be kept and updated as necessary. Health records must be kept separate from any confidential medical results.

All contractors must have a suitable occupational health scheme in place, such as Constructing Better Health (CBH) and have a policy in place reflecting this. Occupational health schemes must be offered to all supply chain partners by the end of 2015. Registration with CBH for supply chain partners and the self-employed will satisfy the Client's requirements in this respect.

All policy objectives are agreed by our contractors through monthly meetings of the Safety, Health, Environmental Leadership Team (SHELT).

The monitoring of vibration controls will take place during the Client's regular RAG Health & Safety inspections. Breaches of legislation and this policy that is witnessed on site will be discussed with the Site Manager in the first instance, to ensure agreed improvements are being implemented in a timely manner. The final score for the RAG Health & Safety inspection report, in respect of breaches of this policy will be discussed and agreed with the Head of Health and Safety – Estates Projects, before the report is issued.