Hand Arm Vibration - Guidance

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1.0 Introduction

This Guidance Note is to ensure all persons and subcontractors employed by Keltbray understand the companies and their own individual responsibilities when managing and undertaking works involving the use of Vibrating Tools.

2.0 Hand Arm Vibration

Hand Arm Vibration comes from the use of hand-held power tools and is the cause of significant ill health; painful and disabling disorders of the blood vessels, nerves and joints such as Vibration White Finger (VWF) and Carpel Tunnel syndrome.

2.1 Symptoms of Hand Arm Vibration Syndrome (HAVS)

The warning signs of HAVS include tingling and numbness; loss of feeling in the fingers; fingers turning white, especially when cold and aching fingers and limbs. It can be extremely painful and is not curable. If symptoms are experienced, operatives must be referred by Site Management to KML for further assessment. VWF is reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. (RIDDOR)

3.0 Tools

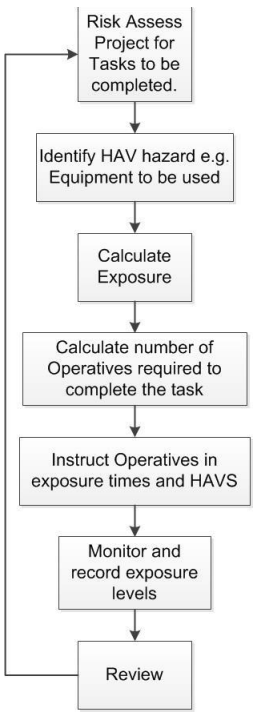
In construction/demolition, vibrating hand-held tools are often used. Some of the most common are reciprocating saws, circular saws, grinders, breakers and drills. Each type of tool will have a different level of vibration, called Vibration Magnitude. The greater this magnitude, the less time the tool can be used.

4.0 The Control of Vibration at Work Regulations 2005

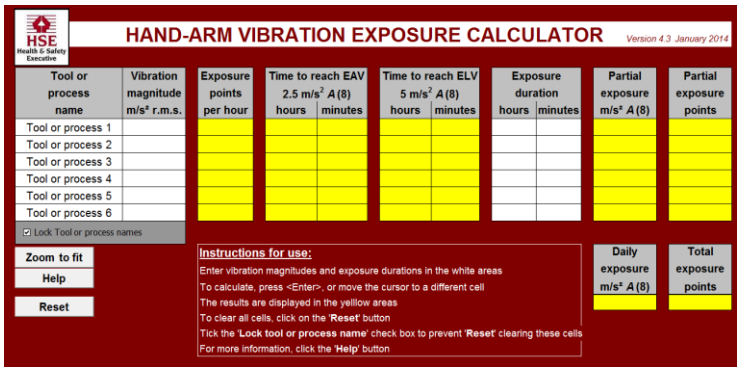
These Regulations set out requirements such as assessing the risk to health created by vibration in the workplace; the elimination or control of exposure and health surveillance. They also set limits off exposure for employees when at work. These limits are called the “Exposure Action Value” (EAV) and the “Exposure Limit Value” (ELV) and are often converted into points.

4.1 Risk Assessment

A Risk Assessment must be carried out prior to any activity commencing and should use an estimated trigger time for the task and the vibration magnitude of the equipment to be used. This will allow the number of operatives requited to complete the task to be calculated.



The HSE Hand Arm Vibration Calculator (which can be found on the HSE website) can be used to assess the likely exposures.



4.2 Exposure Action Value (EAV)

Below this level, it is thought that the risk from vibrating tools is minimal, and exposure to vibration should be kept to as near to this as possible. Above this level, the regulations require that a HAV Management programme is implemented and appropriate Health Surveillance is provided. The level is 2.5m/s2 A(8), often referred to as having a value of 100 points.

4.3 Exposure Limit Value (ELV)

Exposure MUST be kept below the ELV; preferably as far below it as possible. If operatives reach this amount of points they must stop work immediately and do no more work that day which involves vibrating tools. Legally, this limit is set at 5m/s2 A(8) which has a value of 400 points but Keltbray have set the maximum level of exposure at 350 points.

4.4 How is exposure calculated?

It is determined by using the vibration magnitude of a tool, along with the trigger time; and is most easily calculated with the help of the HSE Ready Reckoner, or afore mentioned Calculator. Exposure should be recorded on the record form – DCD–HSQE–FRT–005 - HAV Record Form – if recording and monitoring exposures manually and downloading the Operator Exposure Action report if recording and monitoring with Reactec system.

4.4.1 Trigger time

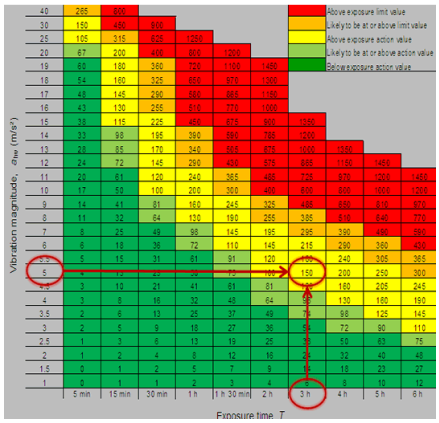
This is the amount of time the machine is actually vibrating; the amount of time the trigger is pushed or pressed. This is not to be confused with the time that the machine is out of the stores or the time the entire task takes to complete. For example, when carrying out a soft stripping task such as removing trunking, a proportion of time will be spent setting up/moving podiums, lifting, carrying and storing the cut pieces and housekeeping. Only some of the time will cuts to the trunking be made; that is the trigger time.

4.4.2 Vibration Magnitude

Each tool will have a level of vibration that it generates when in use and this will vary from tool to tool. It is also dependent on factors such as the material being worked on. Keltbray has carried out, and continues to carry out, tool testing to determine these levels. The tool manufacturer will also state the magnitude but in practice this differs from real time results that the HSE recommends these are not relied upon. The Vibration Magnitude Database (ref: GRP-HSQE-FRT-090) should be referred to in the first instance; if the tool in question is not listed, the HSQE team can make arrangements to visit site and test it.

4.4.3 HSE Ready Reckoner

Once the vibration magnitude is known and the trigger time has been estimated, the HSE ready reckoner can be used to calculate the points. Trace a line across the matrix at the correct vibration magnitude; trace a second line up from the amount of trigger time and where the two lines meet is the amount of exposure points. The traffic light colour coding makes it easy to see whether either of the levels has been breached.



5.0 HAV Management Programme

If operatives' exposure is above 100 points, then a Risk Reduction Programme should be included as part of the management programme. This means determining alternative methods of carrying out the task, buying/using lower vibration tools and a programme of maintenance. Health Surveillance and other activities such as job rotation etc. also form part of the programme. This should be documented.

6.0 Monitoring and Recording

Reactec Electronic monitoring is to be used on Keltbray SCS Projects. Downloading of data should be done every week as a minimum; the site Management Team is responsible for reviewing the data to ensure that over exposures are prevented and actioned. Continual over-exposures will be investigated by the HSQE Team. HR will be responsible for storing the data.

7.0 Operatives

Operatives can take measures to reduce their own risk by; keeping tools well maintained, selecting the right tool for the job and reporting faulty or poorly maintained tools; keeping hands warm and dry; not smoking, especially before using vibrating tools and always reporting any symptoms of HAVS.

Acknowledgements

This Keltbray Guidance Note contains extracts and information gathered from public sector information published by the Health and Safety Executive and licensed under the Open Government License.

References

- Health and Safety at Work Act
- Management of Health and Safety at Work Regulations
- Provision and Use of Work Equipment Regulations (PUWER)
- Control of Vibration at Work Regulations