

Loss Prevention Standards

Noise at Work

Advice for organisations on how to manage the inherent risks of working in noisy environments.



Introduction

Noise at work can cause hearing damage that is permanent and disabling. This can be hearing loss that is gradual because of exposure to noise over time or damage caused by sudden, extremely loud noises.

Hearing damage caused by exposure to noise at work can be permanent and incurable. Many people are exposed to noise levels at work that may be harmful. Hearing damage is disabling as it can stop people being able to understand speech, keep up with conversations or use the telephone. There are many new cases of people receiving compensation for hearing damage each year, with considerable costs to industry, society and, most importantly, the people who suffer the disability.



Noise-induced hearing loss is irreversible damage to the ears caused by exposure to high levels of noise. Click on this [link](#) for an audio demonstration of the effects of both noise exposure and ageing on hearing - these recordings demonstrate how hearing is gradually lost over a working life.

Hearing loss is not the only problem, as people may develop tinnitus (ringing, whistling, buzzing or humming in the ears), a distressing condition which can lead to disturbed sleep.

What Should I do to Protect People?

Employers have a duty of care to protect their employees and anyone else who may be affected by their work from risks to health and safety, which includes exposure to dangerous levels of noise. In order to protect people from noise exposure the following steps should be taken:

- Assess the risks to health and safety from noise to employees and anyone else who may be affected
- Reduce the noise levels as much as possible, then implement further control measures if additional protection is still needed to ensure the noise limits are not exceeded
- Ensure any training and instruction required is given
- Carry out suitable health surveillance where there is still a risk to health
- Bear in mind that an increase of 3dB(A) represents an increase of 100%, e.g., 88dB(A) is double 85dB(A)

Reducing the Effects of Noise at Work

Wherever possible, you should seek to eliminate noisy work practices as this will remove the need to implement further control measures and will provide collective protection to all, rather than just those to which the control measures have been applied. This could be achieved by measures such as choosing equipment and machinery which do not create high levels of noise. The Health and Safety Executive (HSE) have produced some useful guidance on [how to choose quieter equipment and machinery](#).

If it is not possible to remove loud noises from the workplace, then you will need to use other means to control the exposure to workers and others who may be affected:

- Think about where you are locating noisy plant or machinery and whether this could be positioned away from workers
- Use suitable screens to block the path of sound
- Ensure equipment is maintained properly as defective equipment may produce higher levels of noise
- Reduce the amount of time that workers are exposed to loud noises. Every halving of the time spent in a noisy area will reduce noise exposure by 3dB
- Provide workers in noisy environments with suitable Personal Protective Equipment (PPE)

Risk Assessment

- Assess the risks by identifying where there may be high levels of noise and who may be at risk from exposure
- Carry out a reliable estimate as to what the level of exposure is and compare this with the Exposure Action Values (EAV) and Exposure Limit Values (ELV). This should be carried out by competent person, particularly where specialist equipment is required such as sound monitoring equipment
- Identify what control measures need to be put in place to reduce the exposure to a safe level. This should always seek to implement the hierarchy of controls in the following order:
 - Eliminate the noise wherever possible, such as by changing the type of work process
 - Substitute by replacing with a quieter alternative
 - Use Engineering Controls such as barriers, screens or exhaust silencers to reduce the exposure
 - Using Administrative Controls such as minimising the number of people working in noisy areas, limiting time spent in noisy areas or increasing the distance between people and the source of noise
 - PPE is the last option in the hierarchy of control and should be used as a last resort after all efforts to eliminate or reduce the noise levels have been exhausted
- Implement the control measures and ensure that appropriate persons have been assigned responsibilities, ensuring suitable information, training and instruction has been provided to those who may be affected
- Review the risk assessments at appropriate intervals to ensure they remain fit for purpose. If changes to the workplace have been carried out, e.g., changes to machinery, then noise measurements need to be reviewed

What are the Exposure Action Values and Exposure Limit Values?

The [Control of Noise at Work Regulations 2005](#) require you to take specific action at certain EAV. These relate to:

- The levels of exposure to noise of your employees averaged over a working day or week; and
- The maximum noise (peak sound pressure) to which employees are exposed in a working day
- There are also levels of noise exposure which must not be exceeded which are called ELV

The values are:

- Lower EAV:
 - Daily or weekly exposure of 80 dB(A) (calculated as a time weighted average)
 - Peak sound pressure of 135 dB(C)
- Upper EAV:
 - Daily or weekly exposure of 85 dB(A) (calculated as a time weighted average)
 - Peak sound pressure of 137 dB(C)
- ELV:
 - Daily or weekly exposure of 87 dB(A) (calculated as a time weighted average)
 - Peak sound pressure of 140 dB(C)

HSE Exposure Calculators and Ready-Reckoners

The HSE have developed some useful tools which can be used to help organisations to develop suitable risk assessments of noise in the workplace. In order to use these tools, you will need to establish what the noise levels are, which can be done by monitoring using specialist equipment, obtaining information from suppliers of equipment or from manufacturers' specifications.

Noise exposure calculators

The noise exposure calculators can help you work out your daily noise exposure, weekly noise exposures, and estimate the performance of hearing protection:

- [Exposure Calculators and Ready-Reckoners](#) - HSE

Noise exposure ready-reckoners

The noise exposure ready-reckoners allow you to estimate daily or weekly noise exposure. To use the daily exposure ready-reckoner you will need to know the levels of noise and durations of exposure which make up a person's working day. For weekly noise exposure, appropriate where somebody's noise exposure varies markedly from day to day, you will need to know the daily noise exposure for each day in the working week.

These ready-reckoners can be printed for completion by hand.

- [Daily noise exposure ready-reckoner \(PDF\)](#)
- [Weekly noise exposure ready-reckoner \(PDF\)](#)

Providing Hearing Protectors and Managing their Use

The Control of Noise at Work Regulations 2005 require you to:

- Provide employees with hearing protectors if they ask for them, and their noise exposure is between the lower and upper EAV (Weekly/Daily exposure of 80-85dB(A) or peak sound pressure of 135-137dB(C))
- Provide employees with hearing protectors and make sure they use them fully and properly when their noise exposure exceeds the upper EAV (Weekly/Daily exposure of over 85dB(A) or peak sound pressure of 137dB(C))
- Identify hearing protection zones – areas of the workplace where access is restricted, and where wearing hearing protection is compulsory
- You must mark hearing protection zones with signs showing that they are areas where hearing protection must be worn. You should locate these signs at all entrances to the zones and at appropriate places within the zones. The sign need not include any words, but where wording is included it should convey the same meaning as the sign

Checklist

A generic Noise at Work Checklist is presented in Appendix 1 which can be tailored to your own organisation.

Specialist Partner Solutions

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- [Innovate Healthcare](#) – Occupational Health and Wellbeing Services

For more information please visit:

[Aviva Risk Management Solutions – Specialist Partners](#)

Sources and Useful Links

- [The Control of Noise at Work Regulations 2005](#) (L108) – HSE
- [Noise at Work website](#) – HSE
- [Noise at Work – A brief guide to controlling the risks](#) (INDG362) – HSE
- [Exposure Calculators and Ready-Reckoners](#) - HSE
- [How can I choose quieter equipment and machinery?](#) - HSE
- [Audio demonstration](#) of the effects of both noise exposure and ageing on hearing. - HSE



Additional Information

Relevant Loss Prevention Standards include:

- Claims Defensibility
- Vibration at Work
- Prevention of Musculoskeletal Disorders
- Top Tips for Trips

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

Email us at riskadvice@aviva.com or call 0345 366 6666.*

*Calls may be recorded and/or monitored for our joint protection.

Appendix 1 – Noise at Work Checklist



Location	
Date	
Completed by (name and signature)	

	Noise at Work Checklist	Y/N	Comments
1.	Is there a risk that noise in your workplace may be at a harmful level?		
2.	Have you carried out a suitable written risk assessment by establishing what the noise levels are and who may be at risk from high levels of noise?		
3.	Have you reduced the levels of noise as far as reasonably practicable by selecting processes and equipment with consideration of noise reduction?		
4.	Have you identified and implemented suitable control measures to effectively reduce the exposure to harmful levels of noise to a level which no longer presents a risk to health and safety?		
5.	Have you given adequate levels of information, instruction and training for those who may be affected?		
6.	Have you implemented a suitable machinery maintenance regime to avoid increased noise levels?		

	Noise at Work Checklist Contd.	Y/N	Comments
7.	Have you identified areas of noise levels which are in excess of EAV, made those who may enter the area aware and issued PPE as appropriate?		
8.	Is there an effective defect reporting and repair process in place for machinery?		
9.	If required, have you implemented a suitable health surveillance programme including audiometric testing?		
10.	Additional comments:		

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24/01/22 V1.0

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