

NOISE

(See also: [Woodworking\(90\)](#); [Occupational Health\(57\)](#))

NOISE

INTRODUCTION

Exposure to high noise levels can cause incurable hearing damage. Usually the important factors are:-

- (i) The **noise level** (given in decibels, as dB(A))
- (ii) The **extent of exposure**.

The damage involves loss of hearing ability, sometimes made worse by permanent "ringing in the ears" (tinnitus).

LEGAL REQUIREMENTS

The **Noise at Work Regulations 1989** contain requirements where noise exposure is likely to be at or above any of three Action Levels (ALs). Two of the Action Levels are values of 'daily personal exposure to noise', shortened to LEP,d. These depend on the noise level in the working area and how long people spend in them during the day. The First Action Level is an LEP,d of 85dB(A) and the Second Action Level is an LEP,d of 90dB(A). There is also a Peak Action Level of 200 pascals (equivalent to 140dB), most likely to be important where loud impulsive sources (e.g. cartridge operated tools) are used, sometimes only occasionally.

A summary of the main requirements of the Regulations is given below:-

Action required where LEP,d is likely to be: (see note 1 below)	below 85 dB(A)	85 dB(A) First AL	90 dB(A) Second AL
EMPLOYER'S DUTIES			(2)
General Duty to Reduce Risk Risk of hearing damage to be reduced to the lowest level reasonable practicable.	*	*	*
Assessment of Noise Exposure Noise assessments to be made by a Competent Person Record of assessments to be kept until a new one is made		* *	* *
Noise Reduction Reduce exposure to noise as far as is reasonably practicable by means other than ear protectors			*
Provision of Information to Workers Provide adequate information, instruction and training about risks to hearing, what employees should do to minimise risk, how they can obtain ear protectors if they are exposed between 85 and 90 dB(A), and their obligations under the Regulations. Mark ear protection zones with notices, so far as reasonably practicable.		*	* *

Ref: 56

February 2002

<p>Ear Protectors Ensure so far as is practicable that protectors are:</p> <ul style="list-style-type: none"> - provided to employees who ask for them - provided to all exposed - maintained and repaired - used by all exposed <p>Ensure as far as reasonably practicable that all who go into a marked ear protection zone use ear protectors</p>		<p>*</p> <p>*</p>	<p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>(3)</p>
<p>Maintenance and Use of Equipment Ensure so far as is practicable that:</p> <ul style="list-style-type: none"> - all equipment provided under the Regulations used, except for the ear protectors provided between 85 and 90 dB(A). - ensure all equipment is maintained 		<p>*</p> <p>*</p>	<p>*</p> <p>*</p>
EMPLOYEES DUTIES			
<p>Use of Equipment So far as practicable:</p> <ul style="list-style-type: none"> - use ear protectors - use any other protective equipment - report any defects discovered to his/her employer 		<p>*</p> <p>*</p> <p>*</p>	<p>*</p> <p>*</p> <p>*</p>
MACHINE MAKER'S AND SUPPLIERS DUTIES			
<p>Provision of Information Provide information on the noise likely to be generated</p>		<p>*</p>	<p>*</p>

Notes:

- (1) The dB(A) action levels are values of daily personal exposure to noise (LEP,d).
- (2) All the actions indicated at 90 dB(A) are also required where the peak sound pressure is at or above 200 Pa (140 dB re 20 uPa).
- (3) This requirement applies to all who enter the zones, even if they do not stay long enough to receive an exposure of 90 dB(A) LEP,d.
- (4) For new machinery (subject to the Supply of Machinery (Safety) Regulations 1992, as amended in 1994) the supplier needs to provide information on noise emissions including:
 - sound pressure level at workstations where this exceeds 70dB(A);
 - instantaneous sound pressure value at workstations where this exceeds 63 pascals (equivalent to 130 dB(C) peak); and
 - sound power level emitted by the machinery, where the sound pressure level at workstations exceeds 85dB(A)

DECIDING WHAT TO DO

- As a 'rule of thumb' indicator of likely noise level, if you have to raise your voice to be heard when standing next to a person this is approximately 85db(A)

- The use of the following Action Plan may help you decide what you should do:-
- The assessment of noise exposure should be done by a competent person. Records of assessments should be kept, until superseded. Published advice is available on practical ways to quieten the workplace (See References/Further Details). Machinery Suppliers and Trade Associations may also be sources of useful information or help.
- Noise reduction methods can be placed in a hierarchy, as follows:-
 - (i) reduce noise at source - better equipment; isolation; enclosure
 - (ii) increase distance from source
 - (iii) provide baffles
 - (iv) reduce time spent in area/rotate staff
 - (v) personal protective equipment (e.g. ear defenders)

Prevention is always better than cure. Choosing quieter machinery from the start can save you the cost of introducing noise reduction measures once it is installed. You may wish to consider introducing a 'Positive Noise Reduction Purchasing Policy', i.e. preparing a strategy for controlling the impact of noisy machinery in the workplace.

The leaflet 'Keep the Noise Down - Advice for Purchasers of Workplace Machinery' contains useful information, which will help you when discussing machinery specifications with potential suppliers and when considering noise reduction strategies.

- The use of ear protection should not be regarded as a substitute for noise reduction.
- Ear protection zones (where exposure is to the Second Action Level of 90 dB(A)) should be marked with notices:-

PUBLISHED GUIDANCE

The booklet L108 'Reducing Noise at Work - Guidance on the Noise at Work Regulations 1989' (HSE) gives extensive guidance on the subject of occupational exposure to noise. It comprises:

Part 1: Legal duties of employers to prevent damage to hearing

Part 2: Duties of designers, manufacturers, importers and suppliers

Ref: 56

February 2002

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: February 2002
SECTION: Noise		PAGE No. 3 of 5

Part 3: How to choose a competent person - advice for employers

Part 4: How to carry out a noise assessment - advice for the competent person

Part 5: Control of noise exposure - advice for employers and engineers

Part 6: Selection and use of personal ear protection - advice for employers

This publication is commended to all employers with a potential noise problem/issue in their workplace.

NOISE

Ref: 56

February 2002

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: February 2002
SECTION: Noise		PAGE No. 4 of 5

CHECKLIST - NOISE

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|----|--|-----|----|
| 1. | Do you have a possible noise problem? | YES | NO |
| 2. | Have you had the noise exposure assessed by a competent person? | YES | NO |
| 3. | Where a noise problem is confirmed have you:- | | |
| | a) kept a record of the assessment? | YES | NO |
| | b) provided information to employees? | YES | NO |
| | c) provided, maintained and ensured use of ear protectors (as applicable)? | YES | NO |
| | d) reduced the risk of hearing damage to the lowest level reasonably practicable? | YES | NO |
| | e) reduced exposure to noise as far as is reasonably practicable by means other than ear protectors? | YES | NO |
| | f) marked ear protection zones and ensured use of ear protectors within them? | YES | NO |

REFERENCES/FURTHER DETAILS

- *1. Booklet L108 - Reducing Noise at Work - Guidance on the Noise at Work Regulations 1989. ISBN 0-7176-1511-1
- *2. Leaflet IND (G) 75 (L) - Introducing the Noise at Work Regulations. (HSE) www.hse.gov.uk/pubns/indg751.htm
- *3. Booklet HS (G) 138 - Sound Solutions - techniques to reduce noise at work (HSE) ISBN 0 - 7176 - 0791 - 7
- *4. HELA Circular LAC 59/1 - Hazards arising from ultrasonic processes [e.g. Jewellers] www.hse.gov.uk/lau/lacs/59-1.htm
- *5. HELA Circular LAC 59/3 - Noise at Work Regulations 1989. www.hse.gov.uk/lau/lacs/59-3.htm
- *6. Leaflet IND(G)263 - Keep the Noise Down - Advice for the purchasers of workplace machinery. www.hse.gov.uk/pubns/indg263.pdf
- *7. Leaflet IND(G)99 - Noise at work - a guide for employees www.hse.gov.uk/pubns/indg99.htm
- *8. Booklet - "Product standards - machinery - a guide to the UK Regulations" (May 1995) HMSO/DTI URN 95/650. Copies are available from the DTI's Business in Europe hotline on 0117 944 4888.
- *9. Woodworking information sheets - WIS4, WIS5, WIS8, WIS13 - HSE books. www.hse.gov.uk/pubns/woodindx.htm
- 10. Noise at Work - Noise guide no. 1: Legal Duties of Employers to prevent damage to hearing. Noise at Work - Noise guide no. 2: Legal Duties of Designers, Manufacturers, Importers and Suppliers to prevent damage to hearing - HSE Books ISBN 07176 04543. Noise at Work - Noise guide no. 3 - 8: Noise Assessment, Information and Control - HS(G)56 HSE Books ISBN 011 8854305.

* Available to view by prior arrangement at Nuneaton and Bedworth Borough Council, Environmental Health Services, Council House, Coton Road, Nuneaton. CV11 5AA
** Free copy available from Nuneaton and Bedworth Borough Council at the above address.

ORIGINAL ISSUE DATE: October 1997	ISSUE No: 3	ISSUE DATE: February 2002
SECTION: Noise		PAGE No. 5 of 5

NOISE

Ref: 56

February 2002