

EN 352 Hearing protection – what should I choose?



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Risk assessments should involve understanding the level of noise within the working environment. Sound measuring can be used to select the type of hearing protection that is required but as a guide we have listed the main features that should be considered when selecting the solution:-

Remember when reviewing the requirements that noise energy doubles every 3dB – it is not a linear scale....

75dB	Vacuum cleaner.	Non hazardous.
80dB	Hand saw.	Protection recommended for 8 hour exposures above this level.
85dB	Forklift.	Protection MUST be provided above this level.
100dB	Impact wrench.	Extremely loud.
120dB	Oxygen torch.	Short exposure may cause hearing damage
130dB	Impact drill.	Immediate pain threshold.
140dB	Jet engine take off.	Maximum allowable exposure.
160dB	Apollo lift off.	Immediate physical damage.

So what should I choose?

The European Physical Agents (Noise) Directive 2003/10/EC came into force in 2006. In simple terms, the Directive requires that hearing protection should be available at 80dB, and must be worn at 85dB. As a rough guide, when it is necessary to shout in order to be heard 1 meter away the noise levels may be 85dB or more.

Firstly, ensure that the product conforms to EN352. There are three basic standards to take into account. When selecting the ear defenders you must ensure that the products are certified to one of the following standards:-

Ear Muffs EN 352-1:

Ear-Muffs: Two ear cups that are filled with sound absorbing foam. Each cup has a soft pad that is either foam or foam and liquid filled. The ear cups are held in place with a tensioned neckband or headband.

Ear Plugs EN 352-2:

Ear-Plugs that are inserted into the ear canal to seal the entrance.

Helmet Mounted Ear Defenders EN 352-3:

Ear defenders that are designed to be attached to industrial safety helmets. They are adjustable, so they can be positioned over the ear when required.

There are additional standards for more specific products as follows:-

EN352-4: Level dependent ear muffs.

EN352-5: Active noise reduction ear muffs.

EN352-6: Ear muffs with electrical audio input.

EN352-7: Level dependent ear plugs.

EN352-8: Entertainment audio ear muffs.

SNR (Single number rating)

This is the number of potential decibels the hearing protection will reduce the noise by when correctly fitted.

The objective is to select a suitable product that reduces the wearer's noise level down to between 70dB & 80dB. To reduce the noise level to below 70dB may impair the wearer from hearing any alarm or warning sounds.

HML (relates to frequency)

H=High. M=Medium. L=Low. This relates to how the product performs within these general frequency bands. The values of each of these (attenuation levels) will be located on the product packaging. Note that a SNR of 27 will not necessarily be attributable to all frequency levels – this should be considered when selecting a product for a specific frequency.

Summary:

The ear is very delicate. The damage that can be caused is often non-recoverable. Figures from HSE show that during 2006/7 280 instances of work related hearing loss were diagnosed. However, as hearing loss is cumulative over a period of years, many individuals will not realise that their hearing is being affected.