



Certificate No. FM 22786  
ISO 9001:2015

### Which ear defender do I need?

The UK Health and Safety Executive require that the employer makes a reliable, representative estimate of the individual's daily personal noise exposure. Daily personal noise exposure or  $L_{EP,d}$ , represents a daily noise 'dose' – a combination of 'how loud' and 'how long exposed' for the various noises that a person is exposed to in a working day. The employer will also need to determine the likely peak sound pressure levels,  $L_{Cpeak}$ , to which workers are exposed.

Manufacturers of machinery have legal duties regarding the equipment they supply, and employers have a duty under the Provision and Use of Work Equipment Regulations 1998 to only provide workers with equipment that meets relevant supply laws.

To comply with the exposure limits the employer must ensure that the workers' noise exposure, reduced by an appropriate factor if they are using personal hearing protection, is not above:

- 87 decibels for daily or weekly personal noise exposure ( $L_{EP,d}$  or  $L_{EP,w}$ ); and
- 140 decibels for peak sound pressure ( $L_{Cpeak}$ ).

To determine the appropriate factor, subtract the exposure action value from the workers noise exposure. This value will be the required protection value. Select an Ear Defender with an SNR (single number rating) as close as possible to this number.

It is important not to over protect as this may prevent the wearer from hearing warning signals.

### A worked example :

For the purpose of this calculation the daily or weekly Upper Exposure Action Value of 85dB will be used.

Measured work area noise or exposure ( $L_{EP,d}$ ) = 115 dB

Upper Exposure Action Value ( $U_{EAV}$ ) = 85 dB

Required protection value =  $L_{EP,d} - U_{EAV} = 115 - 85 = 30dB$

Therefore a Sonis 2 with an SNR of 31 would be acceptable

### What is SNR?

SNR stands for Single Number Rating, it is a rating given to the ear defender that is used to give a simplified performance rating that can be used to determine the hearing protection offered.

### What are the Exposure action values?

The Noise Regulations define 'exposure action values' – levels of noise exposure which, if exceeded, require the employer to take specific action. There are 'lower' and 'upper' action values. The employer should compare the employee's estimated noise exposure with the action values to know what specific actions are required in addition to their general duty to reduce risks from noise.

	Lower exposure action value (decibels)	Upper exposure action value (decibels)
Daily or weekly personal noise exposure ( $L_{EP,d}$ or $L_{EP,w}$ )	80	85
Peak sound pressure ( $L_{Cpeak}$ )	135	137

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## MANUFACTURING FOR SAFETY

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