HEARING PROTECTION
Protect your employees from noise-induced hearing loss and the result will be a healthier workforce and a more productive business. Follow this simple 4-step process to help you ensure every individual is offered the protection they need.

### The 4-step Guide to Hearing Conservation

#### Step 1. Detection
When a noise survey is required, it must be carried out by a competent person such as a noise consultant.

#### Step 2. Protection
Use the information gained during the survey to select HPE with the right level of attenuation.

#### Step 3. Education and training
Not every member of your workforce will know all the benefits or understand how best to use their protection.

#### Step 4. Validation
Every user is different, how do you make sure the workforce is adequately, individually protected? Ensure the correct validation system is used to give each employee their own personal attenuation rating (PAR), so they start to learn how to increase their protection levels by correctly fitting their ear protection.

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### Decibel Scale dBA

<table>
<thead>
<tr>
<th>Decibel Level</th>
<th>Source</th>
</tr>
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<tbody>
<tr>
<td>10</td>
<td>Watch Ticking 20</td>
</tr>
<tr>
<td>20</td>
<td>Rustling Leaves 30</td>
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<tr>
<td>30</td>
<td>Conversation 65</td>
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<tr>
<td>40</td>
<td>Electrical Transformer 45</td>
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<tr>
<td>50</td>
<td>Air Conditioning Unit 60</td>
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<tr>
<td>60</td>
<td>City Traffic 78</td>
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<tr>
<td>70</td>
<td>Hammer Drill 114</td>
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<tr>
<td>80</td>
<td>Rock Concert 105</td>
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<tr>
<td>90</td>
<td>Pneumatic Riveter 124</td>
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<tr>
<td>100</td>
<td>Motorcycle 150</td>
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<tr>
<td>110</td>
<td>Lawn Mower 90</td>
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<td>120</td>
<td>Vacuum Cleaner 80</td>
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<td>125</td>
<td>Electrical Transformer 45</td>
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<tr>
<td>130</td>
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<tr>
<td>140</td>
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<tr>
<td>155</td>
<td>Rock Concert 105</td>
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<tr>
<td>160</td>
<td>Motorcycle 150</td>
</tr>
<tr>
<td>165</td>
<td>12-Gauge Shotgun 165 dB Peak</td>
</tr>
</tbody>
</table>

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### SNR (Single Number Rating)

SNR is the number of potential decibels the hearing protection will reduce the noise level by, if fitted correctly. The aim is to find a suitable product that brings noise levels down to between 70 and 80 decibels. Over protection should also be avoided, as people may not be able to hear important everyday sounds. SNR is only a general means of comparing different sound protection levels for different hearing protection.

#### SNR Values

- **RNR**<br>95dB(A) – 110dB(A)
  - You do not have to wear hearing protection, but make it available to your workers.
- **95dB(A) – 110dB(A)**<br>You are above the permitted exposure level, hearing protection is compulsory. Ideal for all frequencies.
- **87dB(A) – 98dB(A)**<br>You are above the permitted exposure level, hearing protection is compulsory. Ideal for high frequency noise.
- **85dB(A) – 93dB(A)**<br>You are above the permitted exposure level, hearing protection is compulsory. Ideal for all frequencies.
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### Just because it fits, doesn’t mean it works

Most safety helmets have a facility, usually an accessory slot at each side, to allow them to be fitted with ear defenders and other accessories. Also, many manufacturers offer helmet mounted ear defenders specifically for the purpose. Often the fitting points of the helmet and ear defenders are of a ‘standard’ size and style, but here a significant issue arises:

If you select a helmet and ear defenders from the same manufacturer, it is likely that they have been approved for use together. The manufacturer in question should make this clear in the product information. If, however, you select a helmet from another manufacturer, and helmet mounted ear defenders from another, they may well fit together, but unless you can see that they have been performance tested together there is nothing to show the ear defenders will provide protection!

One of the features determining the performance of ear defenders is the force produced by the spring arm. This is to maintain the seal of the cushion around your ear.

You may have selected the most suitable helmet for you or your workforce, and also the most appropriate ear defenders for the noise hazard, also taking into account weight, comfort, user acceptance, etc, but without testing for use in combination you cannot assume that the ear defenders will provide the expected protection.

Both the helmet and the ear defenders should be CE marked. This mark shows that a product meets the necessary legal requirements however it does not tell you anything about its performance for any given application or task.

There are different ways to gain the CE mark but the most common is to have a product certified using a harmonised European standard (see ‘CE Marking and Product Certification’ below). For helmet mounted ear defenders the standard is EN352-3, and it requires products to be tested together and manufacturers to specify the models of helmet tested with the ear defenders.

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**Just because it fits, doesn’t mean it works**

There are many helmet manufacturers who produce ear defenders for use with their helmets. There are also many manufacturers that specialise in producing one or the other, and distributors will offer a range of both products to give you the best choice. If you select products from different sources, make sure you check that the ear ear defenders have been tested on the specific make and model of helmet with which you plan to use them. Manufacturers are well aware of the situation and many co-operate to have their products tested together, so that the customer can select the combination they prefer as the most appropriate. So, if you want to use an ear ear defender with a particular helmet, make sure they have been certified together. Remember, just because it fits, doesn’t mean it works.