An octave is a jump of 8 notes of the piano. An octave represents how the human ear interprets sound. It discounts such as industrial safety.

THE 3M RANGE OF HEARING PROTECTION. ARE YOU READY FOR THE NEW NOISE DIRECTIVE?

EAR PLUGS

- Disposable Ear Plugs
  - 2610 and 1180 (corded) disposable ear plugs.
  - High comfort level, ease of use and conformity to use.

- Reusable Ear Plugs
  - Worn for the whole duration of exposure to noise, ensuring the wearer is protected.

- Banded Ear Plugs
  - For frequent access to noisy areas.

- Electronic Ear Plugs
  - Designed for use where high noise levels are present.

EAR MUFFS

- Passive ear muffs
  - For the whole duration of a period of time.

- Electronic ear muffs
  - Electronic ear muffs offer an estimate of the overall level of protection a device can offer.

- Helmet/ear muffs
  - For long term exposure in dirty areas.

REMEMBER THESE CRITERIA WHEN YOU CHOOSE YOUR HEARING PROTECTION:

- Hearing protection must be correctly selected and fitted.
- Ensure that the protector has the right level of attenuation for your work environment.
- Comfort – if a product is uncomfortable it is more likely to be worn for the whole duration of exposure to noise, ensuring the wearer is protected.
- Protection must be worn during all exposure time.
- Be as light & comfortable as possible.
- No compatible with PPE such as industrial safety helmets, respiratory protection and eye protection.

For further details see EN589:2004.

THE 3M RANGE OF HEARING PROTECTION. ARE YOU READY FOR THE NEW NOISE DIRECTIVE?

KEY DEFINITIONS

- Octave Band Method = An octave is a jump of 8 notes of the piano. An octave represents how the human ear interprets sound. It discounts such as industrial safety.
- Octave Band = An octave is a jump of 8 notes of the piano. An octave represents how the human ear interprets sound. It discounts such as industrial safety.
- C-weighting = Represents frequencies from 63 Hz to 8000 Hz in the overall sound level measurement.
- A-weighting = Represents how the human ear interprets sound. It discounts such as industrial safety.
- Octave Band Method = A method of measurement in each frequency range to calculate the total sound level of ear.
- SNR = The European Agency for Safety and Health at Work.
- EN458:2004 = The European document that provides guidance on correct selection, use and care of hearing protection in the workplace.
- EU ORSA = The European Agency for Safety and Health at Work.
- 3M United Kingdom PLC
  - Occupational Health & Environmental Safety
  - 3M Centre
  - Cam Road, Burchell
  - Berkshire, RG12 8HT
  - Tel: 0870 60 800 60
  - www.3M.com/UK/OHES

- EN589:2004 = The European document that provides guidance on correct selection, use and care of hearing protection in the workplace.
- EU ORSA = The European Agency for Safety and Health at Work.
### WHAT IS THE NEW NOISE DIRECTIVE?

- It is the "European Union Physical Agents (Noise) Directive, 2003/10/EC"
- It is intended to protect workers from the risks arising from exposure to noise.
- The Directives applies to noise with levels above 80 dB(A) that may be harmful to hearing.

### THE NEW NOISE DIRECTIVE

- **CURRENT DIRECTIVE** 86/188/EEC
- **NEW NOISE DIRECTIVE** 2003/10/EC

<table>
<thead>
<tr>
<th>Action Value</th>
<th>dB(A)</th>
<th>Action Value</th>
<th>dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Action Value</td>
<td>80</td>
<td>Continuous noise and/ or</td>
<td>85</td>
</tr>
<tr>
<td>Upper Action Value</td>
<td>105</td>
<td>or 130 dB (Peak Sound Level)</td>
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</tr>
<tr>
<td>Audiometric screening initiated</td>
<td>87</td>
<td></td>
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<tr>
<td>Higher Action Value</td>
<td>105</td>
<td>Continuous noise and/ or</td>
<td>130</td>
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<tr>
<td>Audiometric screening initiated</td>
<td>87</td>
<td>or 130 dB (Peak Sound Level)</td>
<td></td>
</tr>
</tbody>
</table>

### WHAT ARE THE KEY REQUIREMENTS OF THE NEW NOISE DIRECTIVE?

- **First Action Level:** 85 dB(A)
- **Second Action Level:** 90 dB(A)
- **Exposure Limit Value:** 87 dB(A)
- **Noise Intensity Levels**:
  - Jet taking off 25 metres away: 140 dB(A)
  - Loud Radio: 110 dB(A)
  - Normal Conversation: 50-60 dB(A)

### WHAT ARE THE DIFFERENCES BETWEEN THE OLD AND THE NEW DIRECTIVE?

- **NEW REQUIREMENTS**
  - Audiometric screening initiated for Second Action Level
  - Higher Action Value for Second or Peak Sound Level

### ACTION AND LIMIT VALUES OF THE NEW NOISE DIRECTIVE

- **LOWER EXPOSURE ACTION VALUE**
  - Where employees are exposed to sound levels at or above 85 dB(A) the employer must provide and strictly enforce the use of suitable hearing protection in the affected areas of workplace.

### EXPOSURE LIMIT VALUE

A feature of the NND that is not in the 1986 Directive is the daily exposure limit value. This value takes into account both the noise level to which workers are exposed and the potential for accumulative effects over time. The limit value for daily noise exposure levels is 87 dB(A), which is the daily exposure limit value. This value takes into account both the noise level to which workers are exposed and the potential for accumulative effects over time.

### EFFECTS AT WORK

- **Tinnitus**
- **Muscular contraction**
- **Sleep disturbance**
- **Increased heart rate**
- **Communication disturbance**

### EFFECTS ON THE BODY

- **Hypertension**
- **Muscular contraction**
- **Narcolepsy**
- **Anxiety and stress**
- **Deep stalivation**
- **Meningitis**

### NOISE EFFECTS

- The human body may begin to react adversely to noise at around 80 dB. The effects can be physical, mental or emotional. Noise can be cumulative and cause hearing damage.
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### TYPICAL NOISE INTENSITY LEVELS*

- Normal Conversation: 50-60 dB(A)
- Loud Radio: 65-75 dB(A)
- Piano: 70-80 dB(A)
- Heavy Lorry about 7 metres away: 105 dB(A)
- Factory: 85 dB(A)
- Jet taking off 25 metres away: 160 dB(A)

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*Source: HSE Website, www.hse.gov.uk/noise