

## **Decibel.**

Although often used as a measure in itself the decibel (dB) is actually a ratio rather than an absolute measure in itself. When used with respect to sound, what is often meant is how loud is something relative to the usually accepted reference of 0dB SPL or the threshold of hearing, i.e. the minimum level that can be heard. Therefore when someone talks of a level of 100dB they mean 100dB above threshold of hearing. The decibel is not a linear scale it is logarithmic. If the sound level is doubled it is 6dB louder.

Some useful levels are listed below for reference.

0dB – threshold of hearing

20dB – whisper

40dB – library or quiet living room

60dB – normal conversation

70dB – traffic

90dB – motorbike

110dB – loud personal stereo

120dB – night club

130dB – threshold of pain

140dB – jet engine.

The human ear can just detect a 1dB change in level, 3dB is a noticeable change but not huge. 10dB is a significant change.

Prolonged exposure to levels above 85dB can damage hearing.

130dB can cause damage to buildings.