

## Appendix C: Acoustic Terminology

Term	Description
<b>Decibel (dB)</b>	A unit of noise level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 $\mu$ Pa, the threshold of normal hearing is 0dB, and 140dB is the threshold of pain. A change of 1dB is only perceptible under controlled conditions. Under normal conditions a change in noise level of 3dB(A) is the smallest perceptible change.
<b>dB(A)</b>	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
<b>L<sub>Aeq,T</sub></b>	The equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). L <sub>Aeq, T</sub> is used to describe many types of noise and can be measured directly with an integrating sound level meter.
<b>L<sub>A10,T</sub></b>	The A weighted noise level exceeded for 10% of the specified measurement period (T). L <sub>A10</sub> is the index generally adopted to assess traffic noise.
<b>L<sub>A90, T</sub></b>	The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142:2014 it is used to define the 'background' noise level.
<b>L<sub>Amax</sub></b>	The maximum A-weighted sound pressure level recorded during a measurement.
<b>L<sub>Amin</sub></b>	The minimum A-weighted sound pressure level recorded during a measurement.
<b>R<sub>w</sub></b>	The weighted sound reduction index, R <sub>w</sub> , is a single figure description of sound reduction index which is defined in BS EN ISO 717-1: 1997. The R <sub>w</sub> is calculated from measurements in an acoustic laboratory to BS EN ISO 140-3:1997 and ratings to BS EN ISO 717-1:1997. Sound insulation ratings derived from site (which are invariably lower than the laboratory figures) are referred to as the R' <sub>w</sub> ratings (apparent weighted sound reduction index) and measured to BS EN ISO 140-4:1998