

# Appendix 12.1

## Glossary of Acoustic Terminology



Table A12.1 – Glossary

Ref.	Name
Ambient sound	The total sound at a given place, usually a composite of sounds from many sources near and far.
Background sound, $L_{A90,T}$	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval.
dB	Decibel. Scale for expressing sound pressure level. It is defined as 20 times the logarithm of the ratio between the root mean square pressure of the sound field and a reference pressure i.e. $2 \times 10^{-5}$ Pascal.
dB(A)	<p>A-weighted decibel. This provides a measure of the overall level of sound across the audible spectrum with a frequency weighting to compensate for the varying sensitivity of the human ear to sound at different frequencies. Example sound levels include:</p> <ul style="list-style-type: none"> <li>140 dB(A) Threshold of pain</li> <li>120 dB(A) Threshold of feeling</li> <li>100 dB(A) Loud nightclub</li> <li>80 dB(A) Traffic at busy roadside</li> <li>60 dB(A) Normal speech level at 1m</li> <li>40 dB(A) Quiet office</li> <li>20 dB(A) Broadcasting studio</li> <li>0 dB(A) Median hearing threshold (1000 Hz)</li> </ul>
Frequency	The repetition rate of a sound wave. The subjective equivalent in music is pitch. The unit of frequency is the Hertz (Hz), which is identical to cycles per second. A thousand hertz is often denoted as kHz, e.g. 2 kHz = 2000 Hz. Human hearing ranges approximately from 20 Hz to 20kHz.
$L_{Aeq,T}$	This is defined as the notional steady sound level over a stated period of time (T), would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
NR	Noise rating. A set of curves based on the sensitivity of the human ear. They are used to

give a single-figure rating for a range of frequencies.

Rating level	Specific sound level of a source plus any adjustment for the characteristic features of the sound.
Residual sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Sound absorption	Process whereby sound energy is converted in to heat. Sound absorption properties is expressed as the sound absorption coefficient $\alpha$ or the sound absorption class (A-E).
Sound insulation	The reduction or attenuation of airborne sound by a solid element between source and receiver.
Specific sound	Sound pressure level produced by the source being assessed at the assessment location.
Peak particle velocity (PPV)	Instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position, typically expressed in mm/s.



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