Creatif
Knowledge Base

Decibels (dB) and acoustic comfort

The internationally recognized unit of measurement for sound pressure, sometimes referred to as amplitude or volume, is the decibel (dB).

The human range of hearing is so vast a logarithmic scale is used for decibels, ranging from 0 dB (hearing threshold) to 120-140 dB (pain threshold). This means 20 decibels is actually 10 times greater than 10 decibels, and 30 decibels is 100 greater than 10, which explains why achieving an apparently incremental real-world sound reduction between rooms of, say, 'just' 5dB can be challenging.

Decibels are a useful measurement of sound quantity, but good acoustic design will take into account the factors including frequency and reverberation time

0 dB - Near silence

20 dB - Whispered conversation

45 dB - Typical occupied office

50 dB - Typical occupied classroom

65 dB - Gymnasium/restaurant

70 dB - Factory/railway carriage

90 dB - Traffic/machinery

100 dB - Nightclub

110 dB - Rock concert

120 dB - Airplane at take-off

140 dB - Gunshot

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