
AIRBORNE SOUND

THE **KNOWLEDGE**

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FOOTFALL | EVERYTHING FOR
A QUIET LIFE



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Airborne sound & DnT,w + Ctr

Airborne sound, as you may expect, is sound that travels via the air through the separating structures between rooms. An example would be the sound from people talking or from the radio or TV, radiating in the air and then passing through the floor, the floorboards, into the floor void and then through the plasterboard ceiling into the room below. It can equally pass through the walls to adjacent rooms.

DnT,w +Ctr refers to the level of sound insulation provided on-site by the separating structure.

A sound is created in one room (the source room) and the difference calculated – this gives the D element. The w relates to a weighting across frequencies which accounts for how we perceive different frequencies. This is “normalised” to account for the reverberation in the receiver room, this is the nT. Then a correction factor “+Ctr” for low frequency is applied, low frequency noise is difficult to control, and regulations add this to improve the performance against low frequency sounds.

A source level in one flat of 100 dB(A), and then a receiver level in a neighbouring flat of 55 dB(A) gives a level difference of 45dB. This means that the sound insulating performance of the separating structure is somewhere in the region of 45dB DnT,w +Ctr.

The higher the DnT,w + Ctr result the better the level of airborne sound insulation.

Some tips to ensure good sound insulation performance.

- Ensure that “floating” layers are left floating and are not rigidly fixed

- Fill all joints between parts of the floor to avoid poorly insulated air paths
- Control flanking transmission by using the appropriate detailing
- Lay resilient materials in rolls or sheets with tightly butted and taped joints
- Leave a small gap between the floating floor layers and walls edges and skirting and fill with flexible sealant
- Where possible take the resilient layer up the wall to isolate the floating layer from the wall
- Give attention wherever a pipe or duct penetrates the floor, to reduce flanking transmission and to limit potential air paths
- Allow for movement of materials

Common reasons for **failure**.

- Poor workmanship
- Failure to follow all the detailing
- Floating floors fitted tightly to walls and skirtings
- Non resilient floor finishes fitted rigidly to the floor base
- Sound flanking through beams, joists and walls due to poor isolation



INSTALLATION



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STANDARDS



RECYCLING



MATERIALS



PERFORMANCE