



Cost Effective Sound Insulation

Noise intrusion into the home is a common problem if you live close to busy roads, railway lines, under flights paths or near industrial units and windows tend to be the weakest point of sound insulation in the home. Unlike walls and ceilings, which block and absorb sound waves, windows (glass) allow more sound vibrations to pass through and enter the home. The most common and invasive noises are high frequency sounds, so how do we reduce this and increase the sound proofing of your glazing.

A Question often asked is, what is a better way of increasing the sound insulation?

Double glazing does provide sound proofing, especially if it's replacing existing ill-fitting single glazed windows. Generally the larger the gap between the panes, the better the sound insulation. This can be enhanced where one pane of glass is thicker than the other, such as 6mm glass one side and 4mm the other. This acts as a better sound barrier than normal sealed units, because the different thickness of glass changes the sound wave as it travels through the unit.

Another option is to use 6.4mm laminate glass to the outside of your glazing to offer additional sound proofing. This is also much more secure as laminated glass can not be penetrated as it houses 0.4mm perspex between the two 3.0mm panes of glass. This type of glass is similar to what is used in car windscreens today.

Its worth remembering that the use of trickle ventilators within a window can destroy the acoustic performance of new windows. When noise is a major problem, special acoustic ventilators are necessary, however the downside of these items are they are large and unsightly.

Double Glazing Acoustics Summary

For best results there should be a 33% difference between the glass thickness (4-18-6 units). Using one pane of laminate glass improves performance further.

The position of the thicker pane (internal or external) is not important.

Double rebated windows with gaskets are generally better than brush pile as used on sliding sash windows and sliding patio doors.

Trickle vents ruin any acoustic performance gains.