

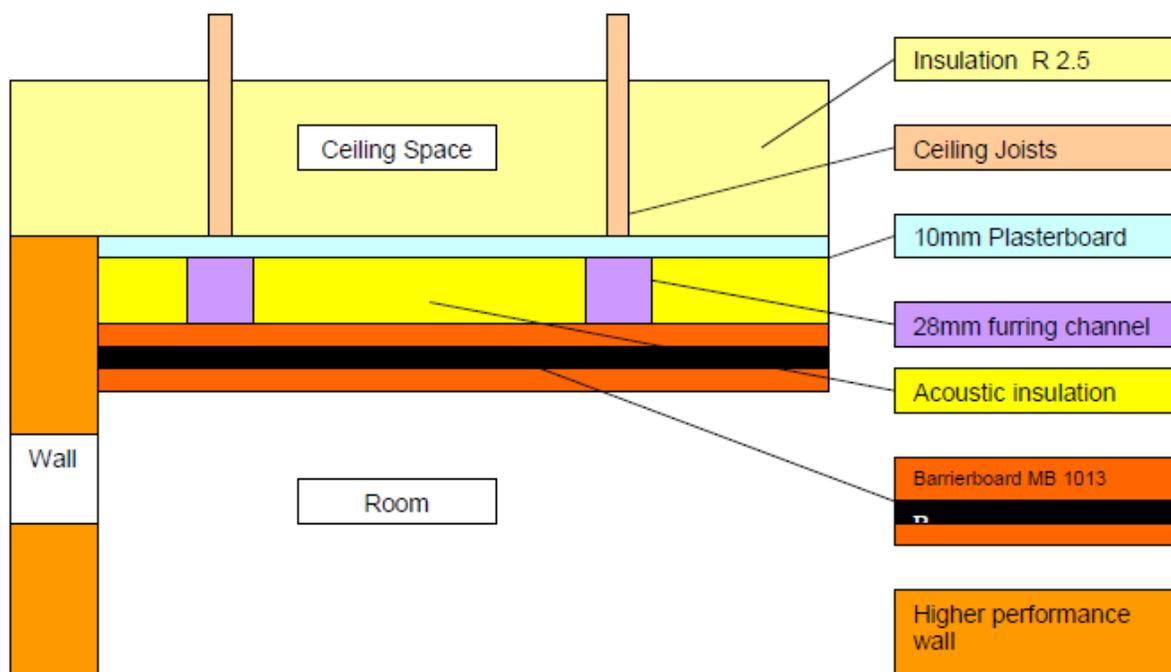
A Sound Reduction index R_w can be given for many individual materials and material combinations (as shown below) and in simple terms can be considered as an average amount of sound reduction that occurs to a sound when traveling through a material or combination separating one space from another.

If the wall performance is improved (increase in R_w) over standard plasterboard walls whether new or existing then generally an improvement is required to the ceiling also.

For common 10mm plasterboard ceilings the R_w is 27.

A significant **improvement** in R_w occurs when the configuration as shown below is used.

This R_w improvement can be from R_w 40 – 47 depending on the combination of plasterboard thicknesses and the separations used.



Typically the above system would produce an R_w of 40 and may suit walls with an R_w of approx 45 -48 *

* the total performance of the ceiling to match that of the wall depends on a number of factors including but not limited to, airspace above the ceiling, type of above ceiling insulation, lighting penetrations etc. Specific assessments should be carried out to determine the type of the ceiling materials to be used and the spacing between the plasterboard and the Barrierboard to suit the acoustic reductions desired.