
Frequently Asked Questions

1. Why is acoustics and noise such a complex science ?

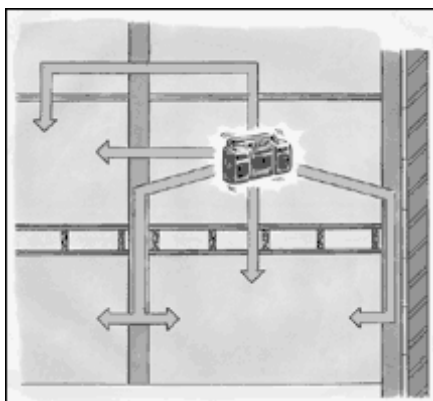
There are two types of sound in our society that need to be addressed separately and people often confuse the two, misuse the terminology, do not explain the different materials required for the different types of sound hence the complication, however, it does not need to be confusing.

2. So what are the two different types of sound ?

Airborne noise is higher frequency sound. It is the sounds of music (sorry had to throw that one in), the sound of people talking, television, radio, telephone, and doorbell. It's also the sound of traffic, dogs barking, kids laughing and the BBQ hissing.

To attenuate (quieten) these sounds, we need materials with mass (weight / density). Brick walls do a great job of keeping those outside airborne sounds out and concrete slabs do an even better job of keeping them from travelling to the level above or below.

Impact sound is a low frequency sound. In residential situations, it is predominantly the sound of footfall (feet thumping the floor with every step). It is the more difficult of the two to attenuate. It is the one that travels through almost all solid materials and creates a pulse in the adjoining rooms whether you have concrete slab, brick walls or plasterboard walls between you and the source of the impact.



It is a very high energy sound that is also made by sub-woofers and similar high powered speaker systems (which are more powerful and readily available in today's society) and very much an issue worthy of attention for the modern home theatre.

To attenuate impact sound, a shock absorber is required as close as possible to the source of the impact noise. This is why Regupol shock absorbing acoustic underlays are so successful in the field of floorcovering acoustics.

3. Does Regupol help with both airborne and impact sound attenuation ?

Regupol's main benefit is for impact sound, however, because of its density it assists to some degree with the attenuation of airborne sound but it should not be used specifically for airborne sound.

4. Do I need to install acoustic underlays at all ?

In new multi storey buildings – yes. The Building Code of Australia amended the law on May 1, 2004 making it mandatory for the construction of all new multi tenancy dwellings to build walls and floors to a minimum acoustic rating. The sounds of living have become louder over the last few decades and Australia is catching up to the rest of world in terms of design requirements for the peaceful enjoyment of a space in today's new buildings.

5. Where do I find out more about these minimum requirements ?

The building Code of Australia Section F5.4

6. Is it viable to build to a better acoustic rating than the minimum specified in the Building Code of Australia ?

Most builders do – especially those developments that are anywhere near the major cities around Australia. The minimum specified by BCA is really a minimum. Money invested in the acoustics of a building is intangible but is not wasted – new buildings can quickly develop a reputation for being noisy and sales can be incredibly difficult to come by once this reputation is achieved.

By the same token, quiet buildings are actively promoted by real estate agents and the issue is at the forefront of buyers' minds. Also to be noted is that once a building has been built, it is incredibly expensive to retrofit acoustics into floors if such a problem has plagued the development. From the experiences of a few builders who did think that buyers didn't care about this issue, the cost is 5 to 6 times more than the original cost of installing it at the time of construction.

7. Am I required by law to acoustically treat floors in my own home ?

The new BCA amendment on acoustics specifically relates to multi tenancies which means buildings with different owners living beside or above / below one another. There is no requirement stipulating minimum acoustic ratings in a single tenancy dwelling, however, this is your castle and you have the freedom to choose how quietly you wish to live.

8. What about renovating a unit in an old block of apartments ?

The Building Code of Australia covers the construction of all new dwellings. Once a multi dwelling building is built, it then comes under the jurisdiction of the Strata Management Act and its by-laws. Unfortunately, there is no single national Act and just as every building has varying levies and sinking funds to support, so too are their conditions and by-laws varied. We find that the closer you are to the city and the more expensive the suburb, the stricter the by-laws in terms of what is permissible when renovating and the higher the quality of finishes including acoustic attenuation.

Many body corporate meetings have been held to discuss in minute detail the type of floorcoverings and the extent to which you will be required to go to ensure impact noise is not transmitted to disturb the 'peaceful enjoyment' of the neighbour below. Most of these meetings do not conclude with a specific acoustic rating being provided, merely a statement that the new floorcovering must ensure the 'peaceful enjoyment' is maintained for all neighbouring units – mainly referring to the one below.

Some of them even go as far as to say your new floorcovering must be as quiet as carpet. All these can be achieved with the right contractor and the Regupol Shock Absorbing Impact sound underlays.

9. How do I know which Regupol product to use ?

We have products that work as systems that we have tested at the CSIRO proven to give you specific IIC and L'n,w + C1 impact sound ratings. Other companies have tested their products and advertise a dB (decibel) reduction which is worthless on its own. Others test their products with floorcoverings on incredibly thick concrete slabs to get a better test result – again of no benefit to you.

We have tested numerous floorcoverings on various thickness Regupol underlays on standard thickness concrete slabs without ceilings to provide you with the most accurate test results possible.

8. Why does acoustic testing sound so complicated ?

Unlike fire resistance or waterproofness where the product itself is tested, acoustics must be tested as a system to prove its compliance with the new Building Code of Australia. A system would include the floorcovering (tongue and groove floorboards for example) the plywood it is fixed onto, the acoustic rubber layer, the concrete slab it is attached to and all the adhesives used in the process. This way, a builder, developer, architect, unit owner or prospective buyer can objectively look at the test results and see how quiet the system will be in comparison to other known systems such as carpet on concrete or even a bare concrete slab itself.