Association of Australasian Acoustical Consultants

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AAAC Guideline for Apartment and Townhouse Acoustic Rating – Explanatory notes regarding the impact sound insulation rating

The AAAC regularly receives enquiries related to impact noise through floors in residential apartments. The AAAC has published a guideline, the *Guideline for Apartment and Townhouse Acoustic Rating,* to assist builders, developers, councils, strata managers and home owners to objectively assess the acoustic performance of flooring construction and to provide incentive to manufacturers to have products tested. Included in the AAAC guideline is an 'impact sound insulation' rating, expressed as $L_{nt,w}$. The lower the $L_{nt,w}$ the better the impact sound insulation.

The overall acoustic performance of a floor (and ceiling) system is a factor of all the components (floor/ceiling/insulation/underlay/floor covering) in the system as well as the characteristics of the building structure in which it is tested. For example, a test carried out on a hard timber floor with acoustic underlay above a concrete slab floor/ceiling will be very different to the same hard timber floor and acoustic underlay above a joisted timber floor and plasterboard ceiling. Therefore it cannot be claimed that any one building product in isolation (especially an acoustic underlay), is guaranteed to achieve a certain acoustic rating or AAAC Star Rating.

Where impact sound insulation ratings are provided by the manufacturer, the rating claim should be evidenced by laboratory or field test results and the complete floor/ceiling system build-up clearly listed. It cannot and should not be claimed that any particular building product (eg underlay) in isolation will achieve a certain acoustic rating, particularly where the floor/ceiling system details are different to that initially tested. To determine the likely acoustic performance of a particular floor/ceiling system, the commonly accepted acoustical method is to install a sample of that system in-situ and undertake an on-site test. During the onsite test, different underlays can be tested and upgraded (or downgraded) to achieve the desired acoustic performance. Alternatively, an acoustic consultant may be able to provide an acoustic opinion on the likely sound insulation rating for a specified system. For certainty, the finished floor should be tested, and a certificate of compliance be provided by the AAAC member.

The AAAC Guideline for Apartment and Townhouse Acoustic Rating should not be used by Owners Corporations/Committees, Strata Managers or the like, to arbitrarily determine and set a minimum impact sound transmission performance requirement (or By-laws) for a specific building. To do so can cause significant issues. Each building is different and the impact sound transmission performance able to be achieved is limited by a number of factors. Specialist advice should be sought from an AAAC member firm, before selecting and imposing minimum impact sound transmission performance requirements (By-laws).

A download link to Guideline for Apartment and Townhouse Acoustic Rating can be found on the AAAC website www.aaac.org.au.

For more information and other published AAAC Guidelines, go to www.aaac.org.au.

To contact a AAAC member, select a region from the link below:

https://aaac.org.au/member-firms

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