

INSTALAY ACOUSTIC TEST RESULTS

InstaLay has been tested to demonstrate the impact sound insulation characteristics in the field using a variety of different floor coverings. The results are summarised in the table below:

<u>Floor Covering</u>	<u>InstaLay</u>	<u>$L_{nT,w} + C_i$</u>	<u>FIIC</u>	<u>BCA / NCC Compliant</u>	<u>AAAC Rating</u>
5mm Vinyl Planks (Click)	InstaLay 30	48	60	Yes	4 Star
7mm Laminate (Click)	InstaLay 30	49	59	Yes	4 Star
7mm Laminate (Click)	InstaLay 50	51	57	Yes	3 Star
8mm Laminate (Click)	InstaLay 30	52	55	Yes	3 Star
8mm Laminate (Click)	InstaLay 50	51	56	Yes	3 Star
9mm Laminate (Click)	InstaLay 30	50	57	Yes	4 Star
9mm Laminate (Click)	InstaLay 50	50	57	Yes	4 Star
14mm Engineered Timber (Click)	InstaLay 30	50	57	Yes	4 Star
14mm Engineered Timber (Click)	InstaLay 50	51	58	Yes	3 Star
21mm Solid Timber (T&G)	InstaLay 30	50	57	Yes	4 Star
21mm Solid Timber (T&G)	InstaLay 50	50	57	Yes	4 Star

Please note that the above results were achieved from the following subfloor construction:

- The subfloor test area was 22.9m² (246.49 ft²).
- The receiving room volume was 59.5m³ (2101.2 ft³).
- The subfloor was a 180mm (7³/₃₂") thick reinforced concrete slab.
- 13mm (³³/₆₄") thick plasterboard direct fixed to the soffit via furring channel.
- These measurements were conducted in general accordance with International Standard ISO 140-7 'Field Measurements of Impact Sound Insulation of Floors', and impact noise ratings determined in accordance with Australian / International Standards AS / ISO 717-2 'Impact Sound Insulation'.
- $L_{nT,w}$ is the weighted normalised impact sound pressure level. A single-number quantity (weighted) to characterise the impact sound insulation of floors from a Field Impact Sound Insulation Test. The lower the $L_{nT,w} + C_i$ the better the acoustic performance of the floor in terms of impact sound insulation.
- FIIC is the Field Impact Insulation Class and the higher FIIC values represent a greater impact performance.

The table below lists the impact sound acoustic performance for the range of InstaLay Self-adhesive environmentally friendly acoustic underlays.

<u>Acoustic Underlay</u>	<u>$L_{n,w} + C_i$ (dB)</u>	<u>BCA / NCC Compliant</u>	<u>AAAC Rating</u>
InstaLay 25 (2.5mm)	61	Yes	2 Star
InstaLay 30 (3mm)	55	Yes	3 Star
InstaLay 50 (5mm)	52	Yes	3 Star

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Please note:

- The test floor measured 3.7m x 3.5m.
- The subfloor was a 150mm thick reinforced concrete slab.
- The Bare Slab $L_{n,w} + C_i$ result was 78 dB.
- The floors were tested in an acoustic laboratory to determine the reduction of transmitted impact noise in accordance with BS EN ISO 140-8: 1998.
- The results are rated according to BS EN ISO 717-2: 1997.
- $L_{n,w}$ is the weighted normalised impact sound pressure level of the Bare Reference Floor with the Acoustic Underlay above (from a Laboratory Impact Sound Insulation Test).
- C_i is the spectrum adaptation term.
- The lower the $L_{n,w} + C_i$ the better the acoustic performance of the floor in terms of impact sound insulation.

The Building Code of Australia (BCA) / The National Construction Code (NCC)

The current BCA / NCC requires that the impact sound insulation rating be no more than **62 dB ($L_{n,w} + C_i$)** for floors separating dwellings or for floors separating dwellings from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.

InstaLay achieves the acoustic performance requirements as set out by the BCA.

The Association of Australian Acoustical Consultants (AAAC)

The AAAC has a rating system that ranks the acoustic performance within apartments and attached dwellings. The AAAC scheme uses a star rating system that defines acceptable levels of $L_{n,w} + C_i$ as follows:

<u>Impact Sound Isolation for Floors</u>	<u>2 Star</u>	<u>3 Star</u>	<u>4 Star</u>	<u>5 Star</u>	<u>6 Star</u>
Between Tenancies ($L_{n,w} \leq$)	65	55	50	45	40
Between All Other Spaces and Tenancies ($L_{n,w} \leq$)	65	55	50	45	40

InstaLay 30 and InstaLay 50 both achieve a 3 Star Rating in accordance with the AAAC system, whereas InstaLay 25 achieves a 2 Star Rating.