

## FIELD FLOOR IMPACT INSULATION TEST REPORT

**25 point dB reduction**

**6mm SPC HYBRID FLOORING**



|                         |                                           |
|-------------------------|-------------------------------------------|
| <b>Commissioned by:</b> | Auslay Industries Pty Ltd (Darren Conroy) |
| <b>Date:</b>            | 20 March 2023                             |
| <b>Project number:</b>  | 5752                                      |
| <b>Version:</b>         | V.0                                       |
| <b>Author:</b>          | Javier Schneider Navas Jurado             |

## FIELD IMPACT SOUND INSULATION - TEST CERTIFICATE

Test 5 of 6

**Auslay SPC hybrid 4.5mm + 1.5mm IXPE back padding**

**PROJECT:** PN5752 U91-29 Apha St, Taringa

**Test Location:** Level 4 U91 Bedroom Area to level 3 U85 Bedroom Area

**Client:** Darren Conroy

**Test Performed:** Javier Navas

**Meas. Date:** 15-Mar-2023

**Meas. Parameter:** LLeq

**Tapping Machine:** Look Line EM50

**Receiving Room Volume:** 26 m<sup>3</sup>

### DESCRIPTION OF FLOOR AND SPECIMEN

**Test Surface:** Auslay SPC hybrid 6.0mm

**Underlay:**

**Substrate:** Concrete

**Slab:** Concrete

**No. of Source posn:** 2

**Mic. posn:** 2 sweeps

**RT meas:** 5 Imp.

**SLM:** B&K 2250

**Weighted Standardized Impact SPL**

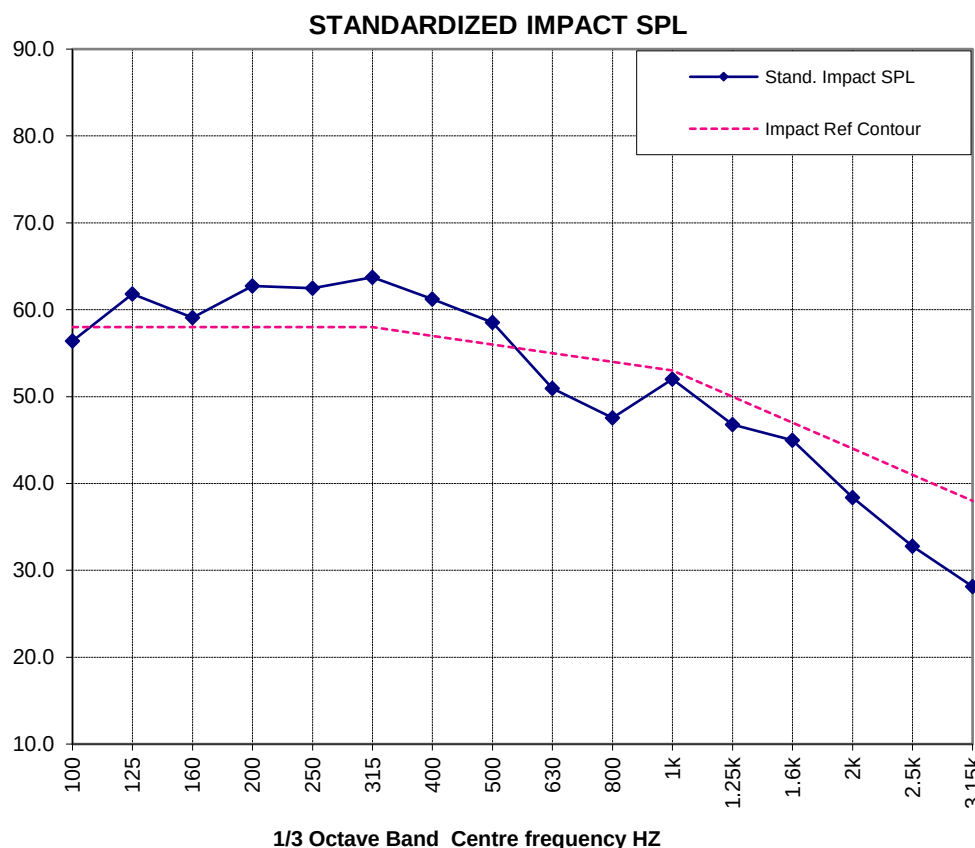
**L'nT,w**

**56**

ISO 16283-2:2015 & 717-2:2013

| Centre Frequency | Stand. Impact SPL | Impact Ref Contour | Deficiencies |
|------------------|-------------------|--------------------|--------------|
| Hz               | dB                | dB                 | dB           |
| 100              | 56.4              | 58                 |              |
| 125              | 61.8              | 58                 | 3.8          |
| 160              | 59.1              | 58                 | 1.1          |
| 200              | 62.7              | 58                 | 4.7          |
| 250              | 62.5              | 58                 | 4.5          |
| 315              | 63.7              | 58                 | 5.7          |
| 400              | 61.2              | 57                 | 4.2          |
| 500              | 58.5              | 56                 | 2.5          |
| 630              | 50.9              | 55                 |              |
| 800              | 47.5              | 54                 |              |
| 1k               | 52.0              | 53                 |              |
| 1.25k            | 46.8              | 50                 |              |
| 1.6k             | 45.0              | 47                 |              |
| 2k               | 38.4              | 44                 |              |
| 2.5k             | 32.8              | 41                 |              |
| 3.15k            | 28.1              | 38                 |              |
| Total            |                   |                    |              |

Standardized Impact SPL, L'nT, dB



L'nT,w 56 26.6

## FIELD IMPACT SOUND INSULATION - TEST CERTIFICATE

Test 6 of 6

### Concrete slab

**PROJECT:** PN5752 U91-29 Apha St, Taringa  
**Test Location:** Level 4 U91 Bedroom Area to level 3 U85 Bedroom Area  
**Client:** Darren Conroy  
**Test Performed:** Javier Navas  
**Meas. Date:** 15-Mar-2023  
**Meas. Parameter:** LLeq  
**Tapping Machine:** Look Line EM50  
**Receiving Room Volume:** 26 m<sup>3</sup>

### DESCRIPTION OF FLOOR AND SPECIMEN

**Test Surface:** Concrete slab  
**Underlay:**  
**Adhesive:**  
**Ceiling:** Concrete  
**Slab:** Concrete

**No. of Source posn:** 2  
**Mic. posn:** 2 sweeps  
**RT meas:** 5 Imp.  
**SLM:** B&K 2250

### Weighted Standardized Impact SPL

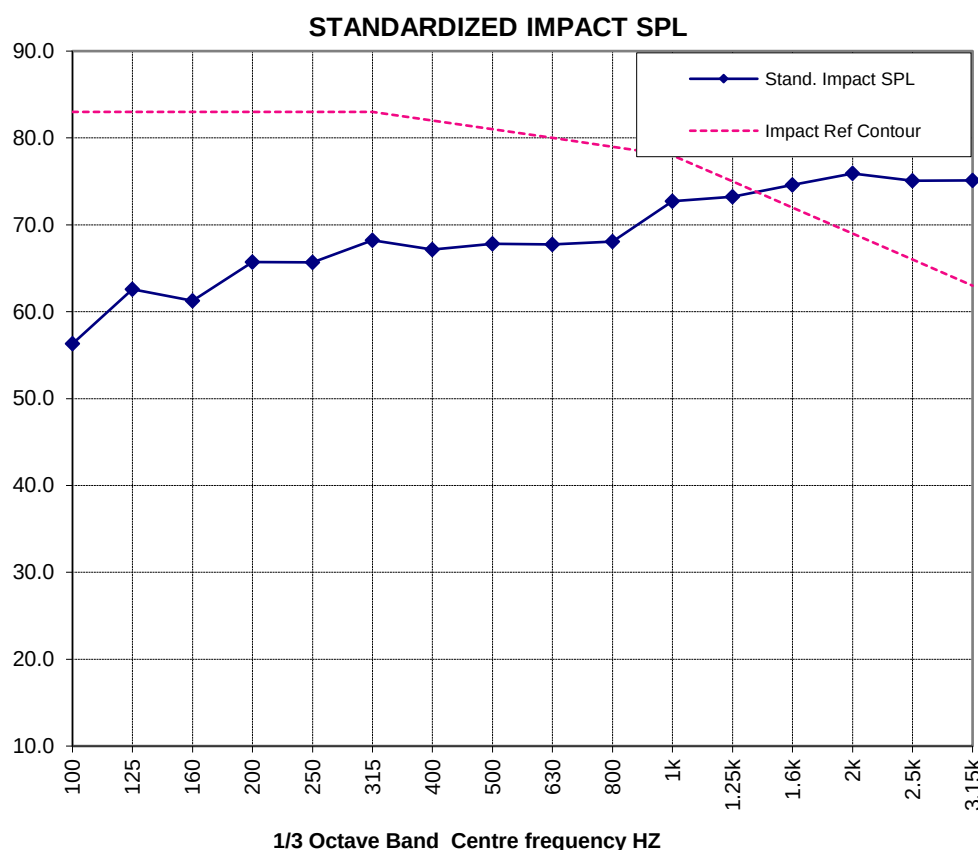
**L'nT,w**

**81**

ISO 16283-2:2015 & 717-2:2013

| Centre Frequency | Stand. Impact SPL | Impact Ref Contour | Deficiencies |
|------------------|-------------------|--------------------|--------------|
| Hz               | dB                | dB                 | dB           |
| 100              | 56.3              | 83                 |              |
| 125              | 62.6              | 83                 |              |
| 160              | 61.3              | 83                 |              |
| 200              | 65.7              | 83                 |              |
| 250              | 65.7              | 83                 |              |
| 315              | 68.2              | 83                 |              |
| 400              | 67.2              | 82                 |              |
| 500              | 67.8              | 81                 |              |
| 630              | 67.7              | 80                 |              |
| 800              | 68.1              | 79                 |              |
| 1k               | 72.7              | 78                 |              |
| 1.25k            | 73.2              | 75                 |              |
| 1.6k             | 74.6              | 72                 | 2.6          |
| 2k               | 75.9              | 69                 | 6.9          |
| 2.5k             | 75.1              | 66                 | 9.1          |
| 3.15k            | 75.1              | 63                 | 12.1         |
| Total            |                   |                    |              |

Standardized Impact SPL, L'nT, dB



L'nT,w 81 30.7

# **UNDERSTANDING ACOUSTIC REDUCTIONS IN FLOORING**

by Auslay Industries Pty. Ltd.

**Acoustic reductions are required when multi storey living is involved or living over commercial shops. Most body corps will require their own acoustic target dB results. ( eg. 48 L'nT,w ). Many factors come into play when achieving acoustic reductions.**

Some SPC hybrid board manufacturers claim a 5 or 6 star rating with their SPC hybrid acoustics. This is fine, but is a site specific result and a final reading below 45 L'nT,w. It is most likely not going to be the result on your job. Every slab reads differently when tested , so the correct way to describe the acoustic reduction of SPC hybrid is by the reduction value. ( eg. 28 dB reduction tested ).

A bare slab test result of 81 L'nT,w is going to give a completely different end result to a bare slab test result of 75 L'nT,w. So it is very important to understand that testing is required if the final acoustic results are needed to be documented. Many other variables come into play also. Wall structure and linings , ceiling cavities and linings in the below apartment , slab thickness , size of testing rooms etc. All these factor into acoustic reduction results. The back pad on your SPC hybrid board also plays a very important part in the acoustic results. There are several types of back pad , but we choose to use 1.5mm IXPE back pad on our Auslay flooring Hybrid. We have tested both EVA and IXPE , and found the IXPE to give the better result. **Underlayments** also can be used in conjunction with the SPC Hybrid. We find that underlayments can give you an extra 1-4 dB ( or greater ) reduction when absolutely required. This can be the difference between meeting or failing a required L'nT,w reading set by the body corp.

We at Auslay Industries are the Australian have a very good range of acoustic underlayments. Eco Cork , Vibramat rubber , quietwalkplus and insulayment and Eva underlay.

- We are importers of Quietwalk Plus and Insulayment underlayments by MP Global USA. These underlayments are 100% recycled products and have incredible acoustic properties. Please read the underlayment page on our website for more information.
- We are authorised distributors for Eco Cork Underlays. A natural cork underlay for all hybrid, vinyl, engineered timber, Laminate and tiles.
- We are distributors of vibramat rubber underlay. A square 1.1m x 1.1m x 5mm recycled rubber sheet.

***" have an acoustic test done first on a sample before you install your entire hybrid flooring job. This will document the results and allow you to adjust or change your flooring acoustic system to meet requirements. If your entire floor is installed first and then fails the required acoustic results, you will be removing the floor and starting again. "***

# **UNDERSTANDING ACOUSTIC REDUCTIONS IN FLOORING**

*by Auslay Industries Pty. Ltd.*

## **Auslay Flooring SCP hybrid site test results :**

Our Auslay Flooring SPC hybrid has been specific site tested and the results are recorded. This particular test unit had a very noisy slab ( 81 L'nT,w ).

We achieved the following results:

### **Dura Collection hybrid :**

- bare slab tested 200mm ( **81 L'nT,w** )

- Dura collection hybrid over the slab tested ( **56 L'nT,w** ) - **a 25dB acoustic reduction.**

To sum up acoustic reduction, remember it is very important to site test before you install your flooring. When the results need to be documented , the site specific results are very important. This will allow you to put together the correct system before you spend money installing and then failing acoustic results and having to remove what you have already done.

### **How it all happens:**

The desired floor will need to be cleared and free of any furniture in the immediate area where the test is to be conducted. You will require a 2.0m x 2.0m square section that is back to the raw slab. If going over the top of existing tiles , then this area will need to be a clean space.

You need approval to enter the apartment below in order to have the acoustic test done. When everything is ready, an acoustic engineer is booked to come on site.

1. A tapping test machine is set up in the centre of the cleared area on top of the bare slab to be tested. The engineer then enters the apartment below and records the noise level that the tapping machine makes.
2. A sample of the flooring is then laid on the test floor and the machine repositioned in the centre again. The engineer then enters the apartment below again and records the noise level that the tapping machine makes.
3. An extra test sample can be set up using an acoustic underlay under the flooring and the process repeated again. ( this extra sample test comes at an extra cost by engineers )
4. These tests results are then taken back to the lab, and the results are documented.
5. You receive a noise level reading of the bare slab, and then of the flooring samples. This end result is what is required by the Body Corporates.

Auslay Flooring can arrange the acoustic tests for you ( testing costs must be paid before any tests commence ) and be onsite with the required samples when the engineer is present.

# ***UNDERSTANDING ACOUSTIC REDUCTIONS IN FLOORING***

*by Auslay Industries Pty. Ltd.*

## **AAA Rating Guideline for acoustics**

- 2 Star acoustic rating –  $\text{LnT,w} < 65 \text{ dB}$
- 3 Star acoustic rating –  $\text{LnT,w} < 55 \text{ dB}$
- 4 Star acoustic rating –  $\text{LnT,w} < 50 \text{ dB}$
- 5 Star acoustic rating –  $\text{LnT,w} < 45 \text{ dB}$
- 6 Star acoustic rating –  $\text{LnT,w} < 40 \text{ dB}$