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## IMPACT NOISE TESTING OF HYBRID FLOORING

### HTT FLOORING PTY LTD

Contrix Pty Ltd was requested to conduct impact noise tests of hybrid hard floor coverings within the residential apartments in Sydney CBD NSW. A total of two (2) tests were conducted which include the following hybrid flooring:

- Test 00: Bare concrete slab without any flooring covering or underlay
- Test 01: Herringbone Hybrid 7mm Hard Core + 2mm Underlay
- Test 02: Duro Hybrid 5mm Hard Core + 2mm Underlay

The purpose of undertaking the impact noise tests was to quantify the acoustic performance of the selected floor coverings with acoustic underlays, and the results are to be used for design guidance only.

All measurements and assessment procedures were conducted in accordance with *AS/NZS ISO 140.7:2006 "Field measurements of impact sound insulation of floors"* and *AS ISO 717.2-2004 "Rating of sound insulation in buildings and of building elements"*. A summary report and detailed technical data sheets are also provided in this report.

Based on our test results and calculations, Contrix Pty Ltd concludes that the selected hybrid floor coverings tested within the residential apartments in Sydney CBD achieve the acoustical ratings of:

- Weighted Standardised Sound Level Different,  $L'_{nTw}$  42~43
- Field Impact Insulation Class, FIIC 63~64
- AAAC Star Rating 5

A result summary table is provided on page 2 and detailed technical data sheets from page 3 of this report.

# IMPACT NOISE INSULATION FIELD TEST REPORT SUMMARY

<b>Testing Date:</b>	Saturday, 17 <sup>th</sup> July 2023
<b>Prepared For:</b>	HTT Pty Ltd
<b>Testing Location:</b>	Residential apartment in Sydney CBD
<b>Existing Sub-base &amp; Ceiling below:</b>	Reinforced concrete slab of 200 ~220 mm Suspended plasterboard ceiling with 50 mm to 80 mm ceiling cavity
<b>Source Room:</b>	Living/dining area on level 9
<b>Receiver Room:</b>	Living/dining area on level 8

## Test Results:

Test #	Floor Covering	Underlay	Measured/Calculated Acoustic Performance			
			L' nTw	FIIC	AAAC Star	Δ L' nTw
00	Bare concrete slab without any flooring covering or underlay (for comparison purpose only and reference for Δ L' nTw)		57	49	2	N/A
01	Herringbone Hybrid 7mm Hard Core + 2mm Underlay	In-built	43	63	5	14
02	Duro Hybrid 5mm Hard Core + 2mm Underlay	In-built	42	64	5	15

<b>Sound Source:</b>	Tapping Machine TM004 S/N 59005
<b>Measuring Device:</b>	NTi-XL2 spectrum analyser S/N A2A-11580-E0

## Measurements conducted in accordance with:

- Australian Standard AS ISO 717.2-2004 "Acoustics - Rating of sound insulation in buildings and of building elements";
- ASTM E1007-14 "Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structure", and
- International Standard ISO 16283-02:2015 "Acoustics – Field measurement of sound insulation in buildings and of building elements".

<b>Tested By:</b>	 Michael Fan Chiang of Contrix Pty Ltd BE (Mech)., MAAS	<b>Report Date:</b>	17 <sup>th</sup> July 2023
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## Disclaimers:

1. The information provided in this report relates to sound insulation of floor coverings & underlays only.
2. Contrix Pty Ltd does not provide products or installation services of hard floor coverings/underlay, therefore, not responsible or liable for any product defects.
3. This testing report is site-specific and only applies to the subject premise for the tested product as specified in this document.
4. The test results can vary from building to building, therefore, this document is not an acoustical certification of the tested products, however, provides information for the design guide only.
5. It is highly recommended to engage a qualified acoustic consultant (Contact Contrix Pty Ltd on +61 425 240 555 or other qualified firms) to conduct in-situ testing (field testing) prior to flooring installation.

# Standardised impact sound pressure level according to ISO 140-7

## Field measurements of impact sound insulation of floors

HTT Flooring Pty Ltd



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Tel: +61 425 240 555

Add: 12 Ormonde Pde, Hurstville

Herringbone Hybrid 7mm Hard Core + 2mm Underlay

Testing Date: Saturday, 15 July 2023

Test No.: 01

Owner/Occupier Name: HTT Flooring Pty Ltd

Testing Location: Residential apartment in Sydney CBD

Floor Finish: Herringbone Hybrid 7mm Hard Core + 2mm Underlay

Acoustic Underlay: --

Sub-base & ceiling below: Reinforced concrete slab

Suspended ceiling cavity and plasterboard ceiling

Source Room: Level 9, living area

Receiver Room: Level 8, living area

Receiving room vol: 63.61

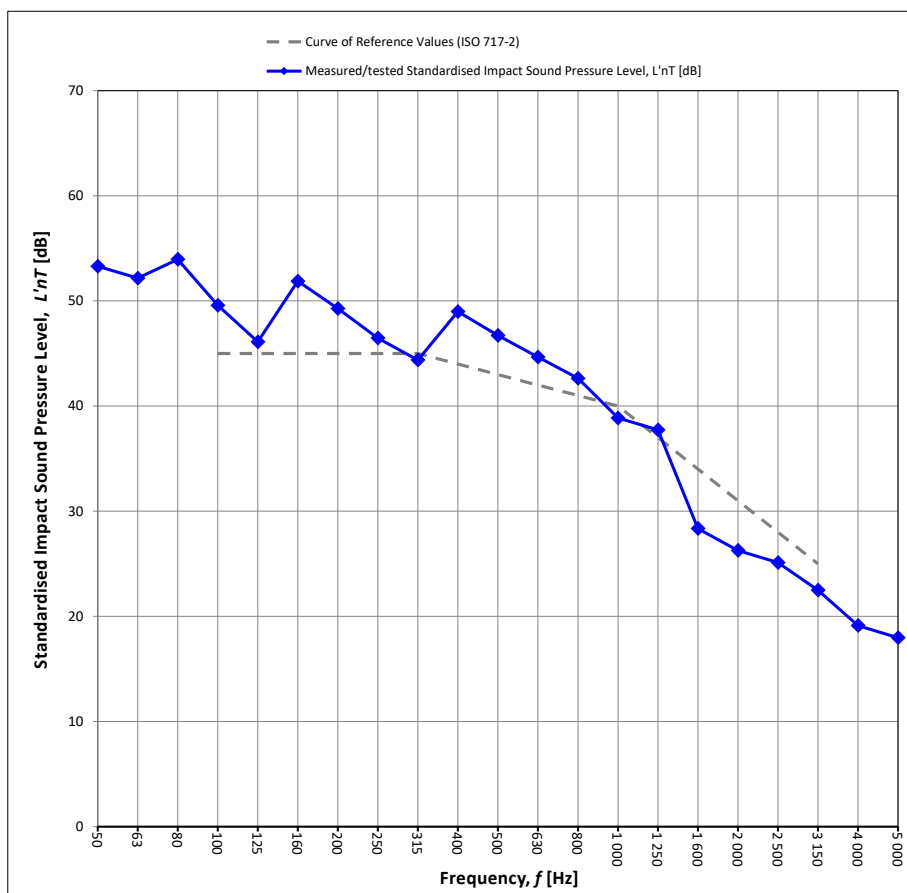
Receiver Room Surfaces:

Wall - Plasterboard

Floor Finish - Carpet

Ceiling - Plasterboard

Frequency, f [Hz]	L'nT (one-third octave) dB
50	53.3
63	52.2
80	54.0
100	49.6
125	46.1
160	51.9
200	49.3
250	46.5
315	44.4
400	49.0
500	46.7
630	44.7
800	42.6
1 000	38.9
1 250	37.7
1 600	28.3
2 000	26.3
2 500	25.1
3 150	22.5
4 000	19.1
5 000	18.0



### Acoustical Rating

Measured Weighted Standardised Sound Level Difference, L'nTw

**43**

AS ISO 717.2 - 2004

Field Impact Isolation Class, FIIC

**63**

ASTME1007-14

AAAC Star Rating

**5 Star**

AAAC Guideline

Evaluation based on field measurement results obtained by an engineering method

Testing Date : Saturday, 15 July 2023

Ref No. : 3668

Testing Organisation: Contrix Pty Ltd

Tested By: Michael Fan Chiang

BE(Mech.), MAAS

**CONTRIX**  
NOISE IMPACT ASSESSMENT  
TESTING & CERTIFICATION

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# Standardised impact sound pressure level according to ISO 140-7

## Field measurements of impact sound insulation of floors

HTT Flooring Pty Ltd



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Tel: +61 425 240 555

Add: 12 Ormonde Pde, Hurstville

**Duro Hybrid 5mm Hard Core + 2mm Underlay**

Testing Date: Saturday, 15 July 2023

Test No.: 02

Owner/Pccupier Name: HTT Flooring Pty Ltd

Testing Location: Residential apartment in Sydney CBD

Floor Finish: Duro Hybrid 5mm Hard Core + 2mm Underlay

Acoustic Underlay: --

Sub-base & ceiling below: Reinforced concrete slab

Suspended ceiling cavity and plasterboard ceiling

Source Room: Level 9, living area

Receiver Room: Level 8, living area

Receiving room vol: 63.61

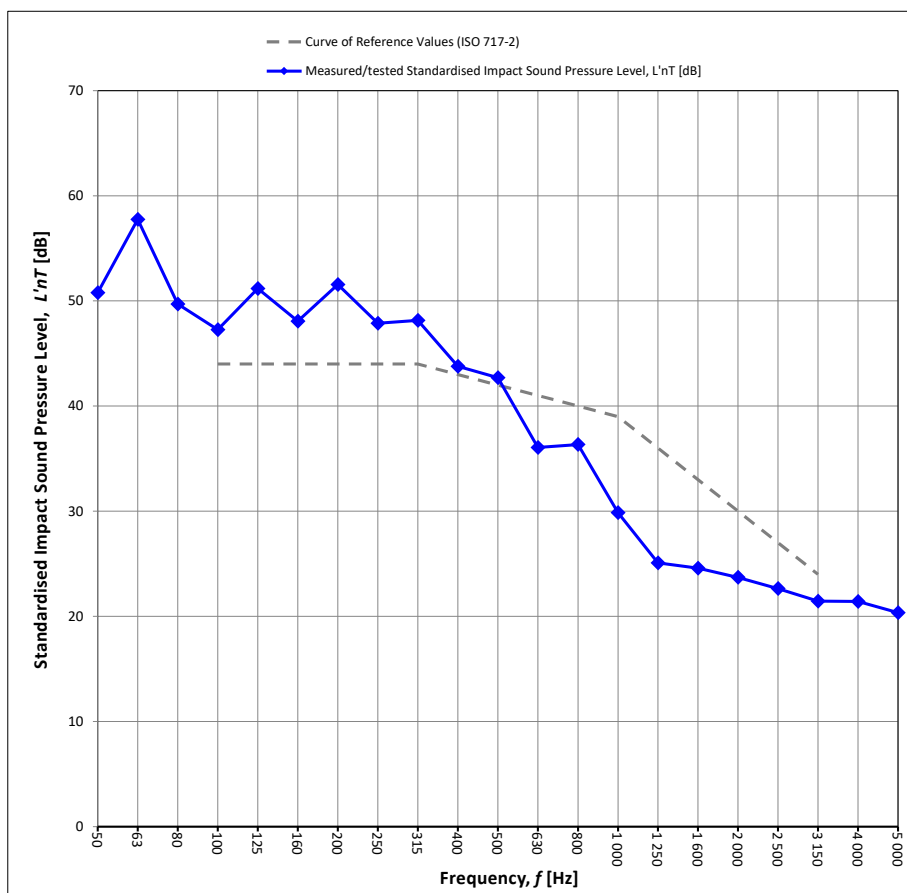
Receiver Room Surfaces:

Wall - Plasterboard

Floor Finish - Carpet

Ceiling - Plasterboard

Frequency, f [Hz]	L'nT (one-third octave) dB
50	50.8
63	57.7
80	49.7
100	47.3
125	51.2
160	48.1
200	51.6
250	47.9
315	48.1
400	43.8
500	42.7
630	36.1
800	36.3
1 000	29.9
1 250	25.1
1 600	24.6
2 000	23.7
2 500	22.6
3 150	21.4
4 000	21.4
5 000	20.3



### Acoustical Rating

Measured Weighted Standardised Sound Level Difference, L'nTw

**42**

AS ISO 717.2 - 2004

Field Impact Isolation Class, FIIC

**64**

ASTME1007-14

AAAC Star Rating

**5 Star**

AAAC Guideline

Evaluation based on field measurement results obtained by an engineering method

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