

LABORATORY MEASUREMENT OF THE REDUCTION OF TRANSMITTED IMPACT SOUND OF A FLOOR COVERING

Test report ID: T2119-2, T2119-4, T2119-5 and T2119-6

Report prepared by:

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a wholly owned company of
THE UNIVERSITY OF AUCKLAND



Acoustics
Testing Service

**Reduction of impact sound pressure level according to ISO 10140-3
Laboratory measurements of the reduction of transmitted impact sound by floor coverings on a heavyweight reference floor**

Client: Autodec

Date of test: 15 July 2020

Test rooms: Reverberation Chambers A and B

Description and identification of the test specimen and test arrangement:

Flooring wearing surface: *Simlay plus/Bounce 470* underlay only

Flooring underlay: *Simlay plus/Bounce 470* underlay

Adhesive: *Pressure sensitive adhesive Giltgrip 66*

Underlay adhered to concrete reference slab.

Sample dimensions: 4 samples each measuring 300mm x 700mm

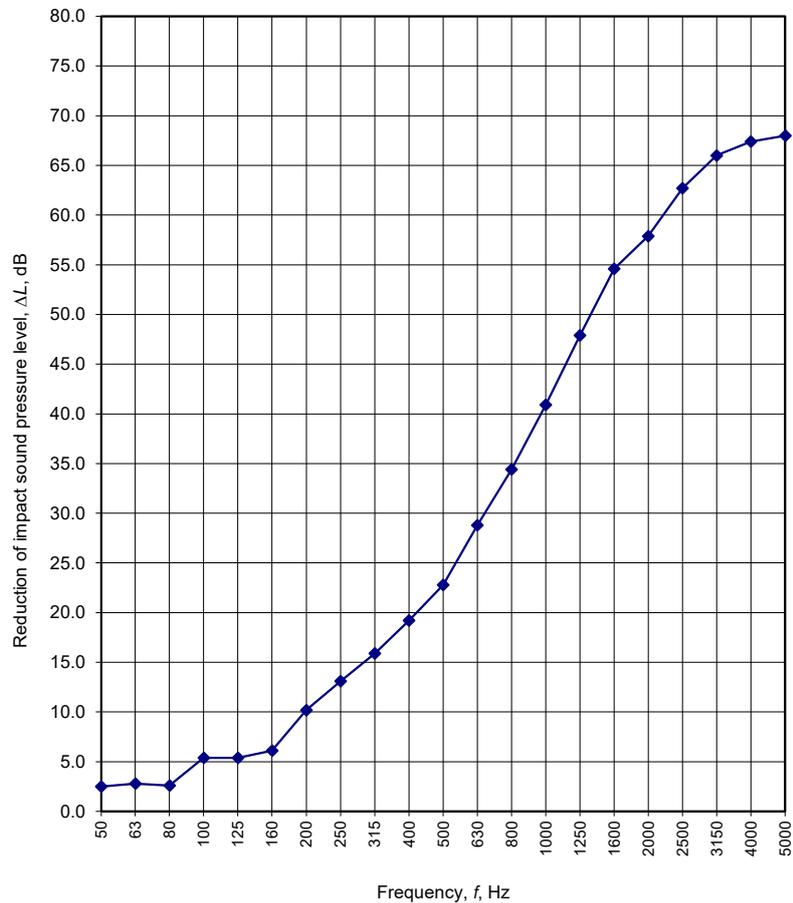
Dimensions of floor: 3.2m x 3.2m

Source chamber: Chamber A, receiving chamber: Chamber B . Test specimen installed by client. Curing times: 15mins

Deviation from standard: The bare test floor used is of uniform thickness for an area of 2.6m x 2.6m. The description of bare test floor given in the full report.

Air temp in the test rooms: 16 °C
Air humidity in test rooms: 68 %
Receiving room volume: 153 m³

Frequency <i>f</i> Hz	<i>L_{n,0}</i> One-third octave dB	ΔL One-third octave dB
50	53.2	2.5
63	50.4	2.8
80	56.6	2.6
100	61.0	5.4
125	67.1	5.4
160	65.6	6.1
200	67.9	10.2
250	68.3	13.1
315	70.4	15.9
400	72.9	19.2
500	80.1	22.8
630	76.1	28.8
800	72.2	34.4
1000	73.0	40.9
1250	73.2	47.9
1600	78.6	54.6
2000	78.2	57.9
2500	76.4	62.7
3150	75.5	66.0
4000	72.0	67.4
5000	69.2	68.0



Notes: #N/A = Value not available. **Bold** values are used to calculate ΔL_w .

< indicates that the true value is lower.
L_{n,0} are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 26$ dB

$C_{1,\Delta} = 12$ dB

$C_{1,r} = 0$ dB

$C_{1,50-2500} = 1$ dB

These results are based on a test made with an artificial source under laboratory conditions (engineering Method) with the specified reference floor.

No. of test report: **T2119-2**

Name of test institute: University of Auckland Acoustics Testing Service.

Date: 18-August-2021

Signature:

Reduction of impact sound pressure level according to ISO 10140-3

Laboratory measurements of the reduction of transmitted impact sound by floor coverings on a heavyweight reference floor

Client: Autodec

Date of test: 16 July 2020

Test rooms: Reverberation Chambers A and B

Description and identification of the test specimen and test arrangement:

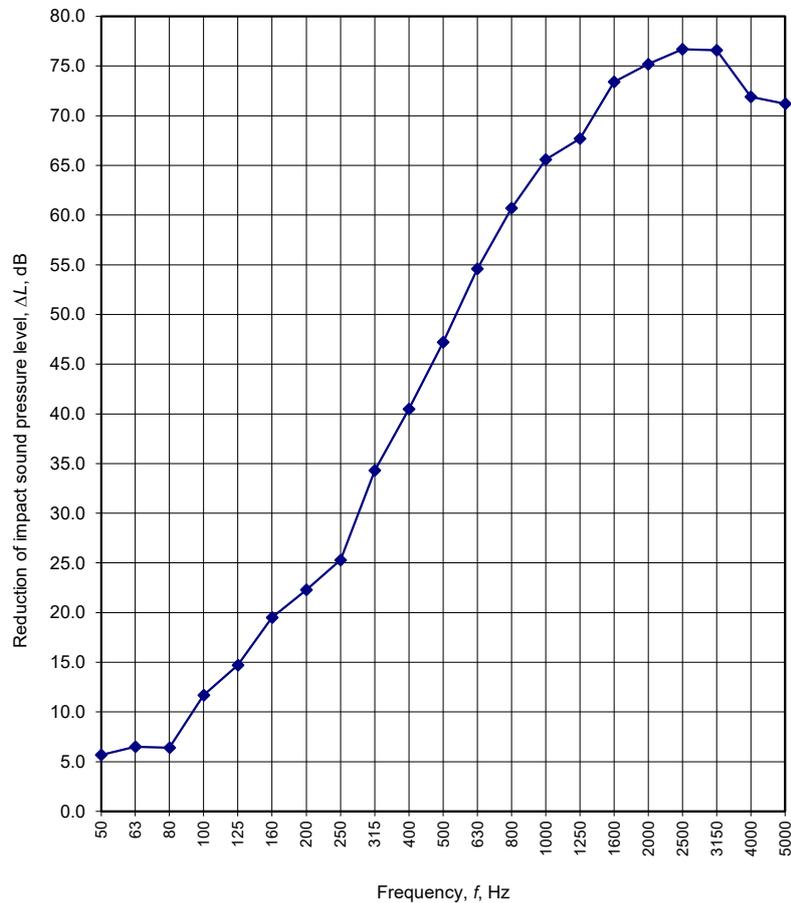
Flooring wearing surface: *Carthage 4* with *Integra HP* and a *Loop pile* adhered to *Simplay Plus/Bounce 470*
 Adhesive: Carpet adhesive *Giltgrip 22* (cure time >24hrs)
 Flooring underlay: *Simplay Plus/Bounce 470* underlay
 Adhesive: Pressure sensitive adhesive *Giltgrip 66*
 Underlay adhered to concrete reference slab.
 Sample dimensions: 4 samples each measuring 300mm x 700mm
 Dimensions of floor: 3.2m x 3.2m

Source chamber: Chamber A, receiving chamber: Chamber B . Test specimen installed by client. Curing times: 15mins

Deviation from standard: The bare test floor used is of uniform thickness for an area of 2.6m x 2.6m. The description of bare test floor given in the full report.

Air temp in the test rooms: 16 °C
 Air humidity in test rooms: 68 %
 Receiving room volume: 153 m³

Frequency <i>f</i> Hz	<i>L</i> _{<i>n,0</i>} One-third octave dB	ΔL One-third octave dB
50	53.2	5.7
63	50.4	6.5
80	56.6	6.4
100	61.0	11.7
125	67.1	14.7
160	65.6	19.5
200	67.9	22.3
250	68.3	25.3
315	70.4	34.3
400	72.9	40.5
500	80.1	47.2
630	76.1	54.6
800	72.2	60.7
1000	73.0	65.6
1250	73.2	67.7
1600	78.6	73.4
2000	78.2	75.2
2500	76.4	76.7
3150	75.5	76.6
4000	72.0	71.9
5000	69.2	71.2



Notes: #N/A = Value not available. **Bold** values are used to calculate ΔL_w .

< indicates that the true value is lower.
*L*_{*n,0*} are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 37$ dB

$C_{1,\Delta} = 13$ dB

$C_{1,r} = 2$ dB

$C_{1,50-2500} = 2$ dB

These results are based on a test made with an artificial source under laboratory conditions (engineering Method) with the specified reference floor.

No. of test report: **T2119-4**

Name of test institute: University of Auckland Acoustics Testing Service.

Date: 18-August-2021

Signature:

Reduction of impact sound pressure level according to ISO 10140-3
Laboratory measurements of the reduction of transmitted impact sound by floor coverings on a heavyweight reference floor

Client: Autodec

Date of test: 16 July 2020

Test rooms: Reverberation Chambers A and B

Description and identification of the test specimen and test arrangement:

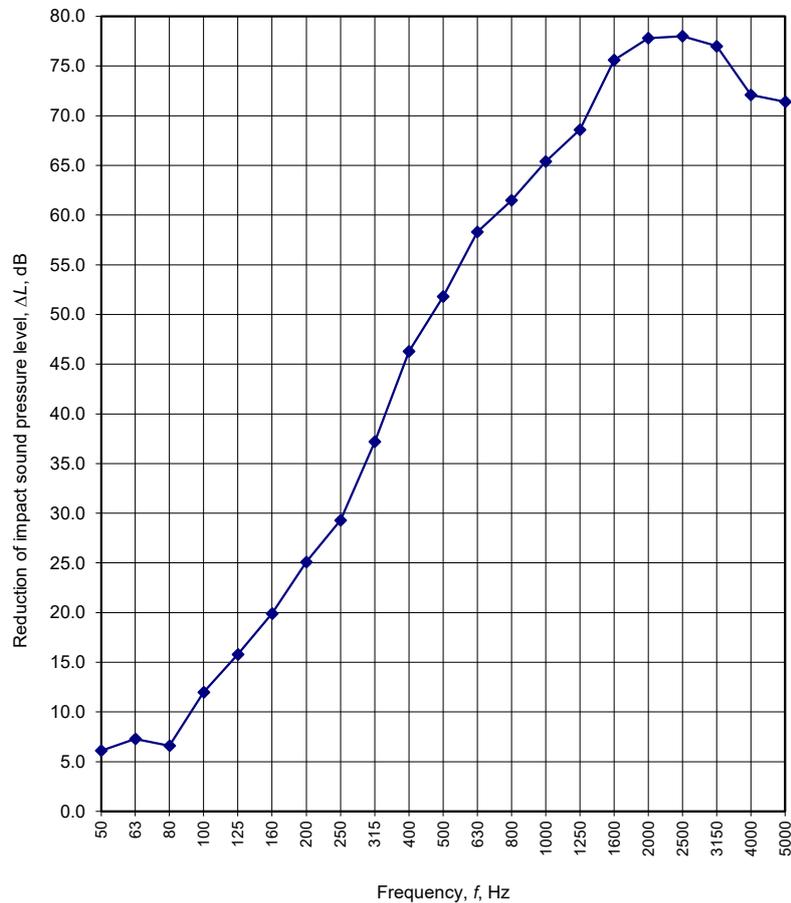
Flooring wearing surface: *Westminster 42 Oz* adhered to *Simplay Plus/Bounce 470*
 Adhesive: *Carpet adhesive Giltgrip 22 (cure time >24hrs)*
 Flooring underlay: *Simplay Plus/Bounce 470 underlay*
 Adhesive: Pressure sensitive adhesive *Giltgrip 66*
 Underlay adhered to concrete reference slab.
 Sample dimensions: 4 samples each measuring 300mm x 700mm
 Dimensions of floor: 3.2m x 3.2m

Source chamber: Chamber A, receiving chamber: Chamber B . Test specimen installed by client. Curing times: N/A

Deviation from standard: The bare test floor used is of uniform thickness for an area of 2.6m x 2.6m. The description of bare test floor given in the full report.

Air temp in the test rooms: 16 °C
 Air humidity in test rooms: 68 %
 Receiving room volume: 153 m³

Frequency <i>f</i> Hz	<i>L</i> _{<i>n,0</i>} One-third octave dB	ΔL One-third octave dB
50	53.2	6.1
63	50.4	7.3
80	56.6	6.6
100	61.0	12.0
125	67.1	15.8
160	65.6	19.9
200	67.9	25.1
250	68.3	29.3
315	70.4	37.2
400	72.9	46.3
500	80.1	51.8
630	76.1	58.3
800	72.2	61.5
1000	73.0	65.4
1250	73.2	68.6
1600	78.6	75.6
2000	78.2	77.8
2500	76.4	78.0
3150	75.5	77.0
4000	72.0	72.1
5000	69.2	71.4



Notes: #N/A = Value not available. **Bold** values are used to calculate ΔL_w .

< indicates that the true value is lower.
*L*_{*n,0*} are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 38$ dB

$C_{1,\Delta} = 14$ dB

$C_{1,r} = 2$ dB

$C_{1,50-2500} = 3$ dB

These results are based on a test made with an artificial source under laboratory conditions (engineering Method) with the specified reference floor.

No. of test report: **T2119-5**

Name of test institute: University of Auckland Acoustics Testing Service.

Date: 18-August-2021

Signature: 

Reduction of impact sound pressure level according to ISO 10140-3

Laboratory measurements of the reduction of transmitted impact sound by floor coverings on a heavyweight reference floor

Client: Autodec

Date of test: 16 July 2020

Test rooms: Reverberation Chambers A and B

Description and identification of the test specimen and test arrangement:

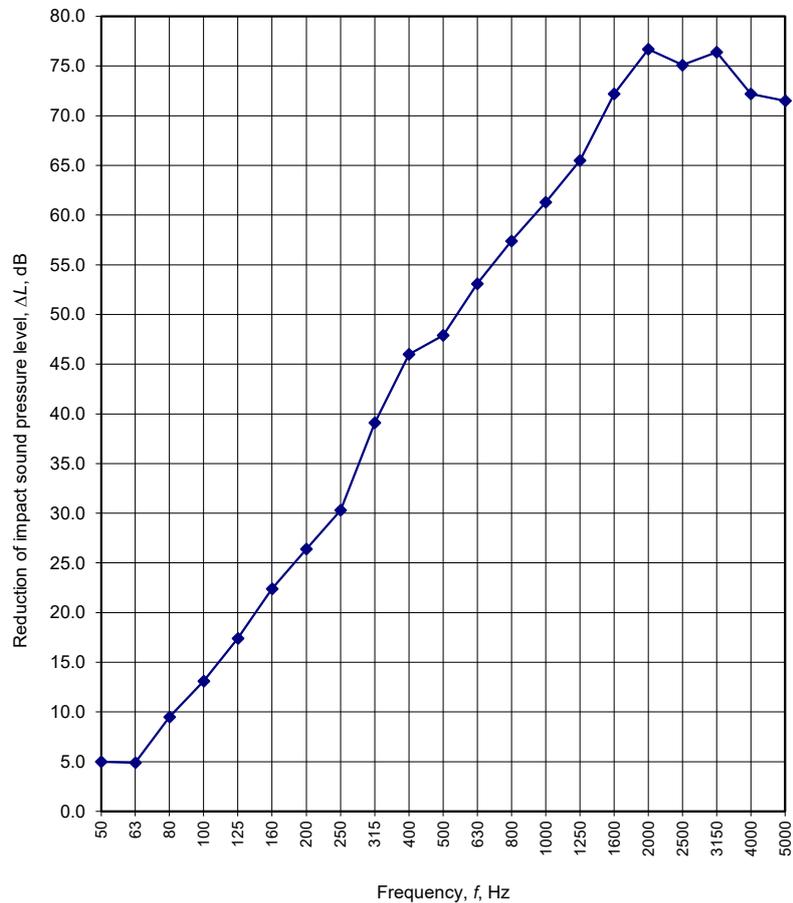
Flooring wearing surface: *Axminster 55 Oz* adhered to *Simplay Plus/Bounce 470*
 Adhesive: Carpet adhesive *Giltgrip 22* (cure time >24hrs)
 Flooring underlay: *Simplay Plus/Bounce 470* underlay
 Adhesive: Pressure sensitive adhesive *Giltgrip 66*
 Underlay adhered to concrete reference slab.
 Sample dimensions: 4 samples each measuring 300mm x 700mm
 Dimensions of floor: 3.2m x 3.2m

Source chamber: Chamber A, receiving chamber: Chamber B . Test specimen installed by client. Curing times: 15mins

Deviation from standard: The bare test floor used is of uniform thickness for an area of 2.6m x 2.6m. The description of bare test floor given in the full report.

Air temp in the test rooms: 16 °C
 Air humidity in test rooms: 68 %
 Receiving room volume: 153 m³

Frequency <i>f</i> Hz	<i>L_{n,0}</i> One-third octave dB	ΔL One-third octave dB
50	53.2	5.0
63	50.4	4.9
80	56.6	9.5
100	61.0	13.1
125	67.1	17.4
160	65.6	22.4
200	67.9	26.4
250	68.3	30.3
315	70.4	39.1
400	72.9	46.0
500	80.1	47.9
630	76.1	53.1
800	72.2	57.4
1000	73.0	61.3
1250	73.2	65.5
1600	78.6	72.2
2000	78.2	76.7
2500	76.4	75.1
3150	75.5	76.4
4000	72.0	72.2
5000	69.2	71.5



Notes: #N/A = Value not available. **Bold** values are used to calculate ΔL_w .

< indicates that the true value is lower.
L_{n,0} are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 40$ dB

$C_{1,\Delta} = 14$ dB

$C_{1,r} = 3$ dB

$C_{1,50-2500} = 3$ dB

These results are based on a test made with an artificial source under laboratory conditions (engineering Method) with the specified reference floor.

No. of test report: **T2119-6**

Name of test institute: University of Auckland Acoustics Testing Service.

Date: 18-August-2021

Signature: