

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

Test report ID: T2119-3 T2119-7 and T2119-8

Report prepared by:

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**AUCKLAND UNISERVICES LIMITED**  
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**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: 16 July 2020

Test rooms: Reverberation Chambers A and B

Description and identification of the test specimen and test arrangement:

Flooring wearing surface: Bettalay/Bounce 650 underlay only

Flooring underlay: Bettalay/Bounce 650 underlay

Adhesive: Pressure sensitive adhesive Giltgrip 66

Underlay adhered to concrete reference slab.

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

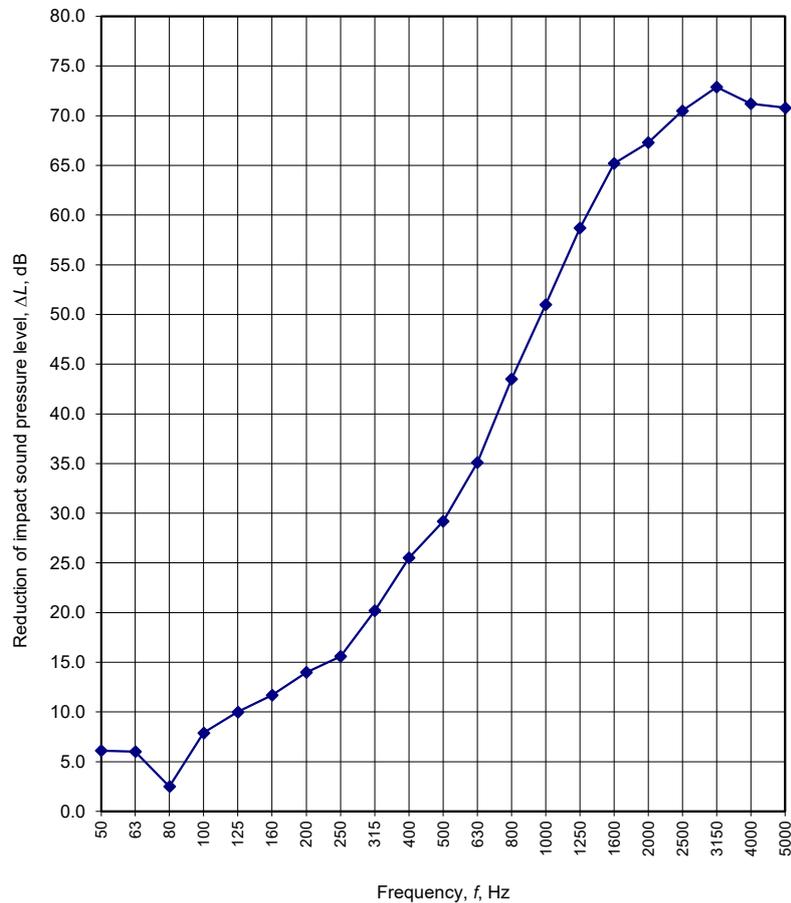
Dimensions of floor: 3.2m x 3.2m

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 m<sup>3</sup>

Frequency <i>f</i> Hz	<i>L</i> <sub><i>n,0</i></sub> One-third octave dB	$\Delta L$ One-third octave dB
50	53.2	6.1
63	50.4	6.0
80	56.6	2.5
100	<b>61.0</b>	<b>7.9</b>
125	<b>67.1</b>	<b>10.0</b>
160	<b>65.6</b>	<b>11.7</b>
200	<b>67.9</b>	<b>14.0</b>
250	<b>68.3</b>	<b>15.6</b>
315	<b>70.4</b>	<b>20.2</b>
400	<b>72.9</b>	<b>25.5</b>
500	<b>80.1</b>	<b>29.2</b>
630	<b>76.1</b>	<b>35.1</b>
800	<b>72.2</b>	<b>43.5</b>
1000	<b>73.0</b>	<b>51.0</b>
1250	<b>73.2</b>	<b>58.7</b>
1600	<b>78.6</b>	<b>65.2</b>
2000	<b>78.2</b>	<b>67.3</b>
2500	<b>76.4</b>	<b>70.5</b>
3150	<b>75.5</b>	<b>72.9</b>
4000	72.0	71.2
5000	69.2	70.8



Notes: #N/A = Value not available. **Bold** values are used to calculate  $\Delta L_w$ .

< indicates that the true value is lower.  
*L*<sub>*n,0*</sub> are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 30$  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: **T2119-3**

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:

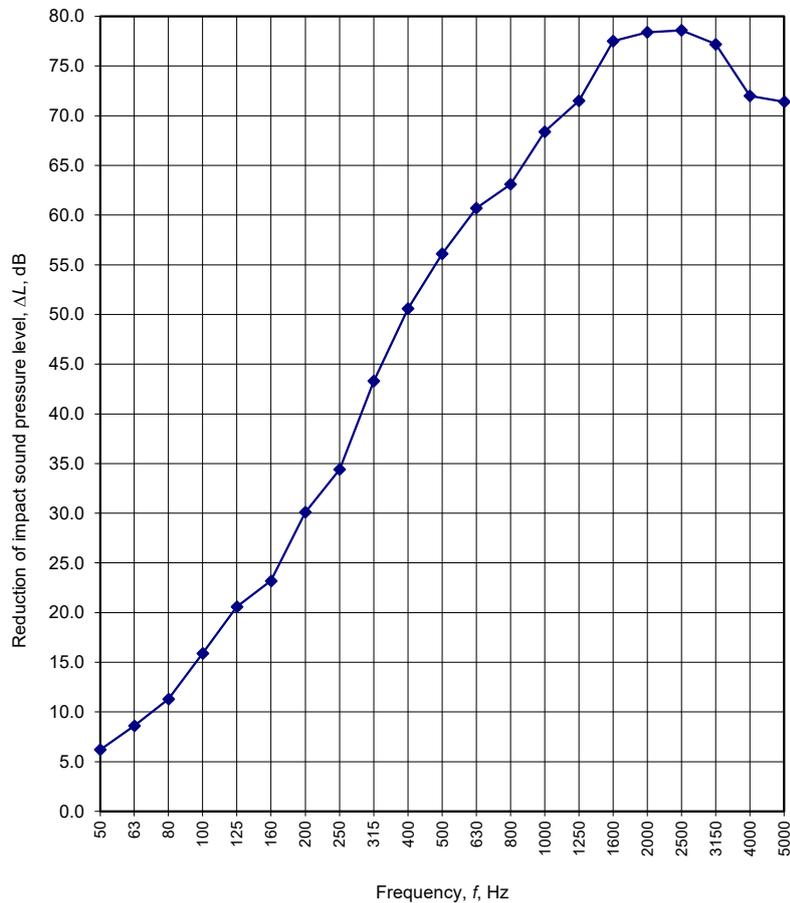
Flooring wearing surface: *Westminster 42 Oz* adhered to *Bettalay/Bounce 650*  
 Adhesive: *Carpet adhesive Giltgrip 22 (cure time >24hrs)*  
 Flooring underlay: *Bettalay/Bounce 650 underlay*  
 Adhesive: Pressure sensitive adhesive *Giltgrip 66*  
 Underlay adhered to concrete reference slab.  
 Sample 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 m<sup>3</sup>

Frequency <i>f</i> Hz	<i>L<sub>n,0</sub></i> One-third octave dB	$\Delta L$ One-third octave dB
50	53.2	6.2
63	50.4	8.6
80	56.6	11.3
100	<b>61.0</b>	<b>15.9</b>
125	<b>67.1</b>	<b>20.6</b>
160	<b>65.6</b>	<b>23.2</b>
200	<b>67.9</b>	<b>30.1</b>
250	<b>68.3</b>	<b>34.4</b>
315	<b>70.4</b>	<b>43.3</b>
400	<b>72.9</b>	<b>50.6</b>
500	<b>80.1</b>	<b>56.1</b>
630	<b>76.1</b>	<b>60.7</b>
800	<b>72.2</b>	<b>63.1</b>
1000	<b>73.0</b>	<b>68.4</b>
1250	<b>73.2</b>	<b>71.5</b>
1600	<b>78.6</b>	<b>77.5</b>
2000	<b>78.2</b>	<b>78.4</b>
2500	<b>76.4</b>	<b>78.6</b>
3150	<b>75.5</b>	<b>77.2</b>
4000	72.0	72.0
5000	69.2	71.4



Notes: #N/A = Value not available. **Bold** values are used to calculate  $\Delta L_w$ .

< indicates that the true value is lower.  
*L<sub>n,0</sub>* are the bare floor impact sound levels.

Rating according to ISO 717-2:

$\Delta L_w = 42$  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: **T2119-7**

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:

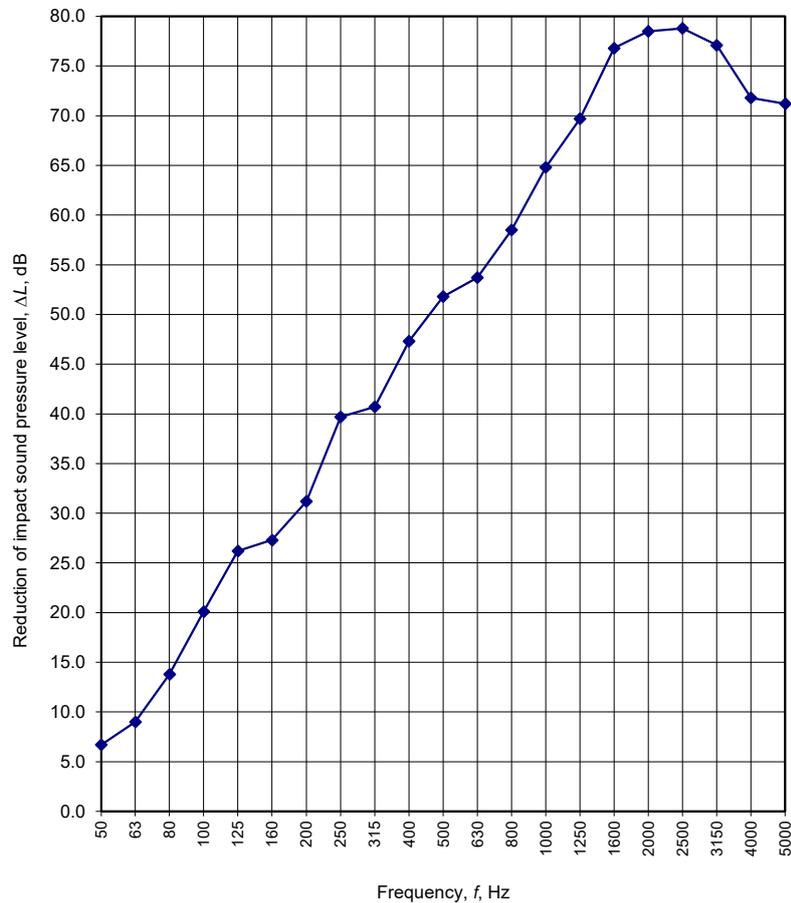
Flooring wearing surface: Axminster 55 Oz adhered to Bettalay/Bounce 650  
 Adhesive: Carpet adhesive Giltgrip 22 (cure time >24hrs)  
 Flooring underlay: Bettalay/Bounce 650 underlay  
 Adhesive: Pressure sensitive adhesive Giltgrip 66  
 Underlay adhered to concrete reference slab.  
 Sample dimensions: 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 m<sup>3</sup>

Frequency <i>f</i> Hz	<i>L<sub>n,0</sub></i> One-third octave dB	$\Delta L$ One-third octave dB
50	53.2	6.7
63	50.4	9.0
80	56.6	13.8
100	<b>61.0</b>	<b>20.1</b>
125	<b>67.1</b>	<b>26.2</b>
160	<b>65.6</b>	<b>27.3</b>
200	<b>67.9</b>	<b>31.2</b>
250	<b>68.3</b>	<b>39.7</b>
315	<b>70.4</b>	<b>40.7</b>
400	<b>72.9</b>	<b>47.3</b>
500	<b>80.1</b>	<b>51.8</b>
630	<b>76.1</b>	<b>53.7</b>
800	<b>72.2</b>	<b>58.5</b>
1000	<b>73.0</b>	<b>64.8</b>
1250	<b>73.2</b>	<b>69.7</b>
1600	<b>78.6</b>	<b>76.8</b>
2000	<b>78.2</b>	<b>78.5</b>
2500	<b>76.4</b>	<b>78.8</b>
3150	<b>75.5</b>	<b>77.1</b>
4000	72.0	71.8
5000	69.2	71.2



Notes: #N/A = Value not available. **Bold** values are used to calculate  $\Delta L_w$ .

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

Rating according to ISO 717-2:

$\Delta L_w = 46$  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: **T2119-8**

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

Date: 18-August-2021

Signature: