

Laboratory airborne sound insulation testing of Rytons Building Products Ltd ventilator systems



Laboratory measurement of airborne sound insulation of small building elements
Element-normalized level difference according to BS EN 20140-10:1992
BRE horizontal transmission suite (B9 051-053)

Client: Rytons Building Products Ltd

Test date: 23/07/2007

Test number: L107-154

Test element: Ventilator

0578

Filler wall area: 9.8 m²

Description:

TAL4CWL ventilator assembly;
x1 MFAB, TAL4000 AirLiner, LF80 Internal, ABC3 Cowl

Source room volume: 130 m³

Air temperature: 19 °C

Receive room volume: 115 m³

Air relative humidity: 71 %

| Frequency (Hz) | Reverberation time (s) | Background level (dB) | Source level (dB) | Receive level (dB) | $D_{n,e}$ (dB) |
|-------------------|------------------------------|-----------------------------|-------------------------|--------------------------|-------------------|
| 50 | 2.64 | 33.3 | 92.0 | 59.9 | 35.0 |
| 63 | 1.76 | 22.9 | 100.1 | 69.3 | 31.9 |
| 80 | 1.98 | 16.8 | 100.1 | 64.8 | 36.9 |
| 100 | 1.69 | 13.9 | 100.3 | 59.4 | 41.8 |
| 125 | 1.98 | 11.2 | 103.0 | 60.2 | 44.4 |
| 160 | 1.74 | 21.3 | 102.1 | 59.2 | 43.3 |
| 200 | 2.00 | 36.9 | 102.3 | 56.8 | 45.9 |
| 250 | 1.80 | 15.0 | 100.1 | 57.8 | 42.2 |
| 315 | 1.64 | 11.7 | 99.9 | 64.9 | 34.5 |
| 400 | 1.66 | 18.7 | 99.6 | 62.1 | 37.0 |
| 500 | 1.64 | 9.2 | 99.0 | 60.1 | 38.4 |
| 630 | 1.58 | 9.8 | 98.3 | 62.0 | 35.7 |
| 800 | 1.50 | 9.8 | 97.4 | 62.4 | 34.1 |
| 1,000 | 1.50 | 17.6 | 96.2 | 58.2 | 37.2 |
| 1,250 | 1.49 | 11.0 | 98.1 | 56.9 | 40.2 |
| 1,600 | 1.49 | 5.6 | 98.9 | 58.1 | 39.9 |
| 2,000 | 1.52 | 6.1 | 97.5 | 56.0 | 40.6 |
| 2,500 | 1.51 | 6.9 | 97.8 | 54.8 | 42.1 |
| 3,150 | 1.50 | 9.1 | 98.0 | 51.6 | 45.6 |
| 4,000 | 1.40 | 10.4 | 98.9 | 48.2 | 49.5 |
| 5,000 | 1.26 | 7.9 | 95.9 | 43.7 | 50.6 |

x Adjusted for flanking transmission

o Correction = 1.3 dB

| | | | | | |
|---|------------------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|
| Rating according to BS EN ISO 717-1:1997 | | | | | |
| $D_{n,e,w}(C;C_{tr}) = 39 (0;-1) \text{ dB}$ | $C_{50-3150} = 0 \text{ dB}$ | $C_{50-5000} = 1 \text{ dB}$ | $C_{100-5000} = 1 \text{ dB}$ | $C_{tr,50-3150} = -1 \text{ dB}$ | $C_{tr,100-5000} = -1 \text{ dB}$ |
| Evaluation based on laboratory measurement results obtained by an engineering method | | | | | |
| Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed $\pm 1 \text{ dB}$ for the single-number quantity ($D_{n,e,w}$) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ($D_{n,e,w}$) | | | | | |

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory airborne sound insulation testing of Rytons Building Products Ltd ventilator systems



Laboratory measurement of airborne sound insulation of small building elements
 Element-normalized level difference according to BS EN 20140-10:1992
 BRE horizontal transmission suite (B9 051-053)

Client: Rytons Building Products Ltd

Test date: 23/07/2007

Test number: L107-154

Test element: Ventilator

0578

Filler wall area: 9.8 m²

Description:

TAL4CWL ventilator assembly;

x1 MFAB, TAL4000 AirLiner, LF80 Internal, ABC3 Cowl

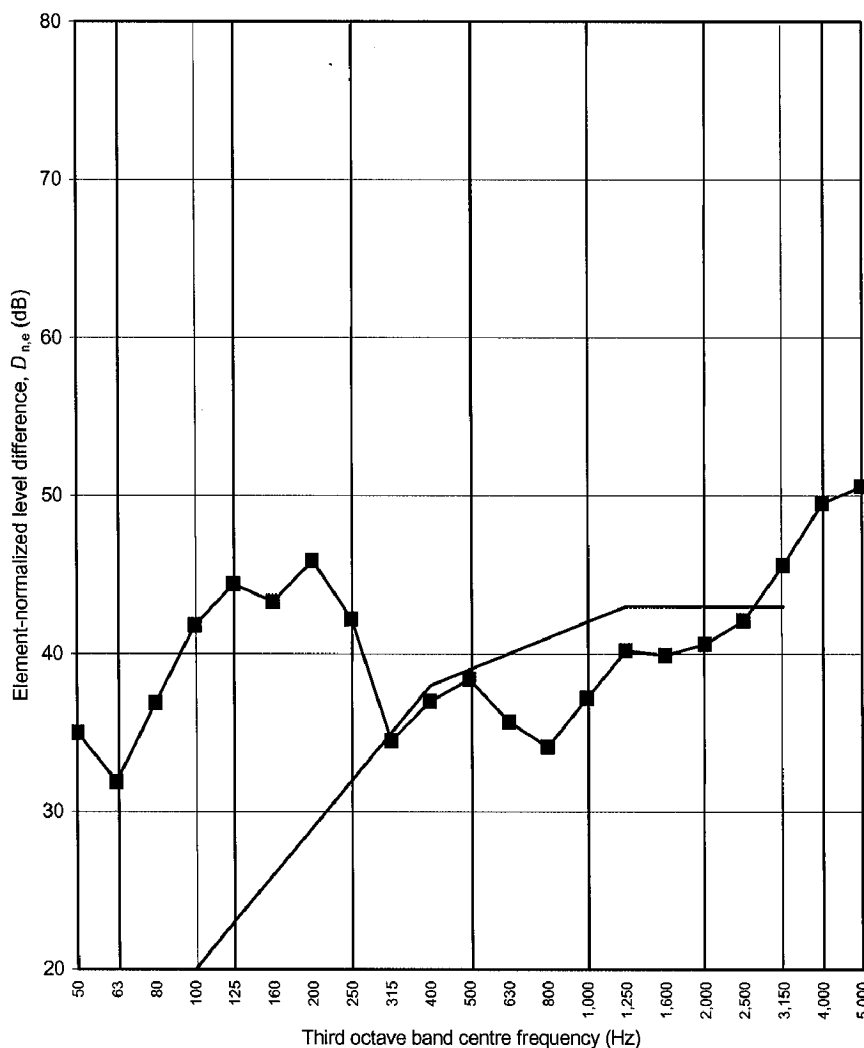
Source room volume: 130 m³

Air temperature: 19 °C

Receive room volume: 115 m³

Air relative humidity: 71 %

| Frequency (Hz) | $D_{n,e}$ One-third octave (dB) |
|----------------|---------------------------------|
| 50 | 35.0 |
| 63 | 31.9 |
| 80 | 36.9 |
| 100 | 41.8 |
| 125 | 44.4 |
| 160 | 43.3 |
| 200 | 45.9 |
| 250 | 42.2 |
| 315 | 34.5 |
| 400 | 37.0 |
| 500 | 38.4 |
| 630 | 35.7 |
| 800 | 34.1 |
| 1,000 | 37.2 |
| 1,250 | 40.2 |
| 1,600 | 39.9 |
| 2,000 | 40.6 |
| 2,500 | 42.1 |
| 3,150 | 45.6 |
| 4,000 | 49.5 |
| 5,000 | 50.6 |



x Adjusted for flanking transmission

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C; C_{tr}) = 39 (0; -1) \text{ dB}$ $C_{50-3150} = 0 \text{ dB}$ $C_{50-5000} = 1 \text{ dB}$ $C_{100-5000} = 1 \text{ dB}$
 $C_{tr,50-3150} = -1 \text{ dB}$ $C_{tr,50-5000} = -1 \text{ dB}$ $C_{tr,100-5000} = -1 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed $\pm 1 \text{ dB}$ for the single-number quantity ($D_{n,e,w}$) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ($D_{n,e,w}$)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

bre

**Laboratory airborne
sound insulation testing
of Rytons Building
Products Ltd ventilator
systems**

Prepared for: Karen Jolley

Rytons Building Products Ltd

20 August 2007

Test report number 238655



0578

building a better world