



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)

Client: Rytons Building Products Ltd

Test date: 12/02/2013

Test number: L112-081

Test element: vent

0578

Filler wall area: 9.8 m²

Description:

AAC125HPCWL – OPEN – Cowled Super Acoustic Controllable LookRyt® AirCore®

Source room volume: 130 m³

Air temperature: 9 °C

Receive room volume: 115 m³

Air relative humidity: 55 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	$D_{n,e}$ (dB)
50	1.68	23.1	92.8	69.8	23.8
63	1.51	20.1	97.8	73.5	24.7
80	1.28	17.7	96.6	64.3	32.0
100	1.56	19.4	97.8	58.3	40.0
125	1.72	16.6	98.6	56.6	43.0
160	1.72	16.8	96.8	53.3	44.5
200	1.80	12.1	98.3	59.3	38.8
250	1.58	14.6	96.0	62.4	32.9
315	1.66	11.0	93.8	58.0	35.3
400	1.60	11.8	92.5	57.4	34.4
500	1.57	15.7	93.6	54.4	38.5
630	1.61	14.7	95.2	52.2	42.4
800	1.59	12.1	95.5	49.4	45.5
1,000	1.56	9.3	94.9	42.4	51.8
1,250	1.62	11.3	95.5	36.4	58.6
1,600	1.59	12.8	95.7	30.0	65.1
2,000	1.57	10.3	93.3	31.6	61.0
2,500	1.51	8.7	93.6	32.9	59.9
3,150	1.38	7.5	94.6	27.7	65.6
4,000	1.25	7.9	99.7	27.0	71.0
5,000	1.13	7.4	100.0	24.7	73.1

α Correction = 13 dB

Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C;C_{tr}) = 45 (-1;-3)$ dB $C_{50-5150} = -1$ dB $C_{63-5000} = 0$ dB $C_{100-5000} = 0$ dB
 $C_{tr,50-3150} = -$ $C_{tr,50-5000} = -$ $C_{tr,100-5000} = -3$ 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 ± 1 dB for the single 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 ($D_{n,e,w}$)

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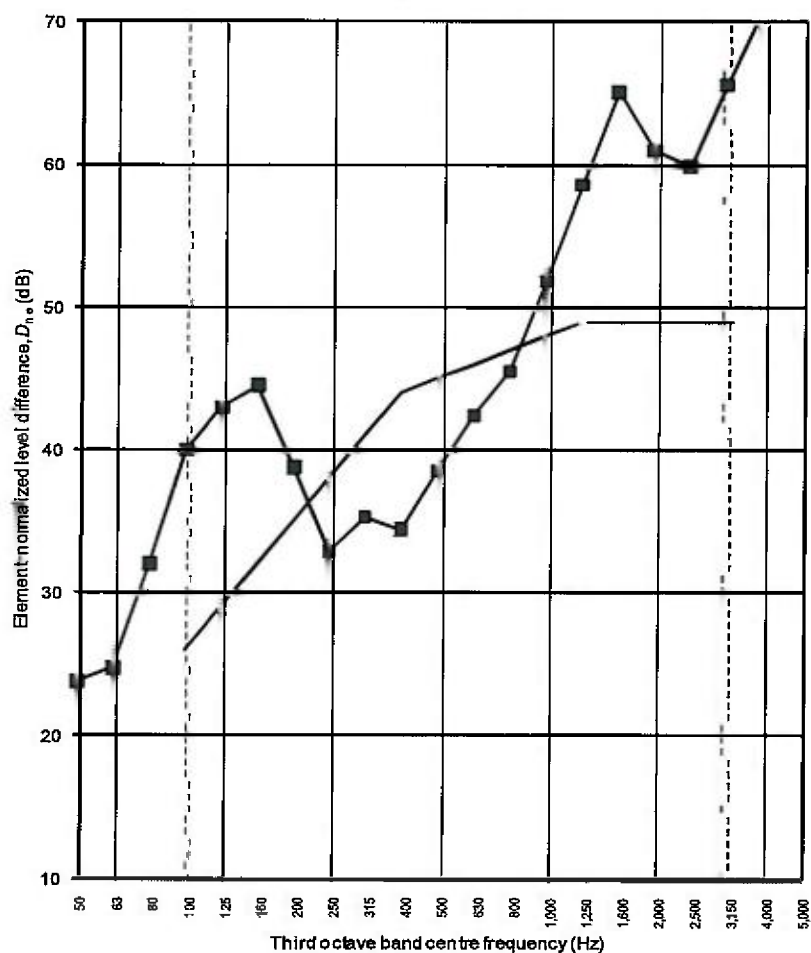
Source room volume: 130 m³

Air temperature: 9 °C

Receive room volume: 115 m³

Air relative humidity: 55 %

Frequency (Hz)	$D_{n,e}$ One-third octave (dB)
50	23.8
63	24.7
80	32.0
100	40.0
125	43.0
160	44.5
200	38.8
250	32.9
315	35.3
400	34.4
500	38.5
630	42.4
800	45.5
1,000	51.8
1,250	58.6
1,600	65.1
2,000	61.0
2,500	59.9
3,150	65.6
4,000	71.0
5,000	73.1



o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C;C_{tr}) = 45 (-1;-3) \text{ dB}$ $C_{50-3150} = -1 \text{ dB}$ $C_{50-5000} = 0 \text{ dB}$ $C_{100-5000} = 0 \text{ dB}$
 $C_{tr,50-3150} = -$ $C_{tr,50-5000} = -$ $C_{tr,100-5000} = -3 \text{ dB}$

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 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 ($D_{n,e,w}$)

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**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)****Client:** Rytons Building Products Ltd**Test date:** 12/02/2013**Test number:** L112-082**Test element:** vent

0578

Filler wall area: 9.8 m²**Description:**

AAC125HPCWL-CLOSED- Cowled Super Acoustic Controllable LookRyt® AirCore®

Source room volume: 130 m³**Air temperature:** 9 °C**Receive room volume:** 115 m³**Air relative humidity:** 55 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	$D_{n,e}$ (dB)
50	1.68	23.1	93.1	69.1	24.8
63	1.51	20.1	98.1	73.0	25.5
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500	1.57	15.7	93.6	48.6	44.4
630	1.61	14.7	95.2	43.8	50.8
800	1.59	12.1	95.5	41.0	53.9
1,000	1.56	9.3	95.0	32.5	61.7
1,250	1.62	11.3	95.5	30.3	64.6
1,600	1.59	12.8	95.7	29.8	65.3
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3,150	1.38	7.5	94.7	28.4	65.0
4,000	1.25	7.9	99.7	28.1	69.9
5,000	1.13	7.4	100.1	25.2	72.7

o Correction = 13 dB

Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C;C_{tr}) = 50 (-1;-4) \text{ dB}$
 $C_{50-3150} = -2 \text{ dB}$
 $C_{50-5000} = -1 \text{ dB}$
 $C_{100-5000} = 0 \text{ dB}$
 $C_{tr,50-3150} = -$
 $C_{tr,50-5000} = -$
 $C_{tr,100-5000} = -4 \text{ dB}$

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 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 ($D_{n,e,w}$)

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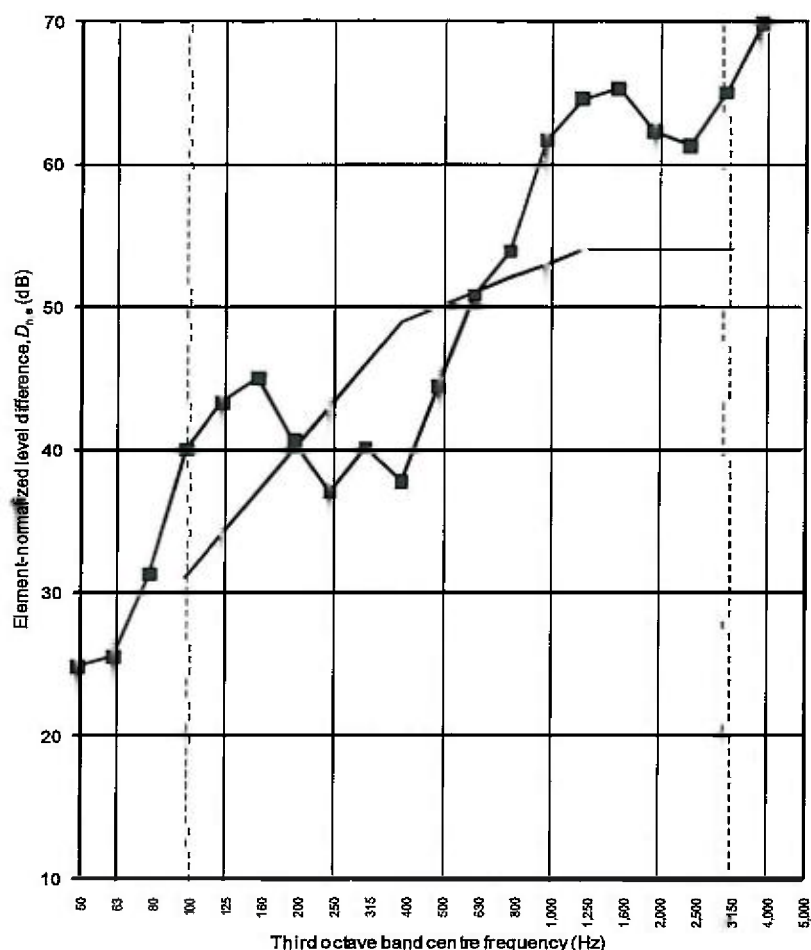
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The BRE logo is displayed in a bold, yellow, sans-serif font. It is positioned on the left side of the page, which has a dark teal background. The background is decorated with a series of thin, yellow, curved lines that sweep across the page from the top left towards the bottom right, creating a sense of motion and depth.

bre

**Rytons Building
Products Ltd.
Laboratory Sound
Insulation Test of Core
Ventilators in the BRE
Horizontal Transmission
Suite**

Prepared for:
Design House
Orion Way
Kettering Business Park
Kettering Northants
NN15 6NL

3rd April 2013

Test report number **284908**



0578