

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: L107-155

Test element: Ventilator

0578

Filler wall area: 9.8 m²

Description:

TALH&M ventilator assembly;
x1 MFAB96, TAL8000 AirLiner, HM85F Internal (OPEN)

Source room volume: 130 m³

Air temperature: 19 °C

Receive room volume: 115 m³

Air relative humidity: 74 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	$D_{n,e}$ (dB)
50	3.14	26.4	92.3	59.4	36.6
63	2.21	20.6	100.1	68.1	34.1
80	1.83	15.3	99.7	64.6	36.4
100	1.67	13.4	100.5	61.3	40.1
125	2.03	12.2	103.1	67.0	37.1
160	1.87	19.4	102.2	64.6	37.6
200	1.87	34.8	102.2	63.4	38.9
250	1.72	13.7	100.1	65.4	34.4
315	1.68	12.8	100.2	69.4	30.3
400	1.61	23.9	99.7	68.3	30.8
500	1.66	9.9	99.0	66.8	31.7
630	1.60	10.3	98.6	60.4	37.6
800	1.47	9.8	97.7	57.4	39.3
1,000	1.45	15.6	96.5	56.0	39.5
1,250	1.51	12.4	98.3	54.0	43.4
1,600	1.48	6.2	98.9	54.9	43.1
2,000	1.52	6.4	97.5	49.1	47.6
2,500	1.50	7.0	97.8	44.8	52.1
3,150	1.45	7.6	97.8	42.6	54.2
4,000	1.38	8.0	98.5	43.8	53.4
5,000	1.26	9.8	95.6	39.8	54.2

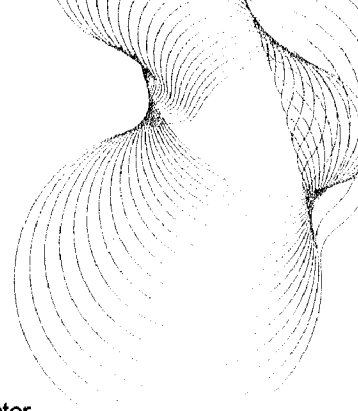
x Adjusted for flanking transmission

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997					
$D_{n,e,w}(C; C_{tr}) = 39 (0; -2) \text{ dB}$	$C_{50-3150} = 0 \text{ dB}$	$C_{50-5000} = 1 \text{ dB}$	$C_{100-5000} = 1 \text{ dB}$		
	$C_{tr,50-3150} = -2 \text{ dB}$	$C_{tr,50-5000} = -2 \text{ dB}$	$C_{tr,100-5000} = -2 \text{ dB}$		
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 ($D_{n,e,w}$)					

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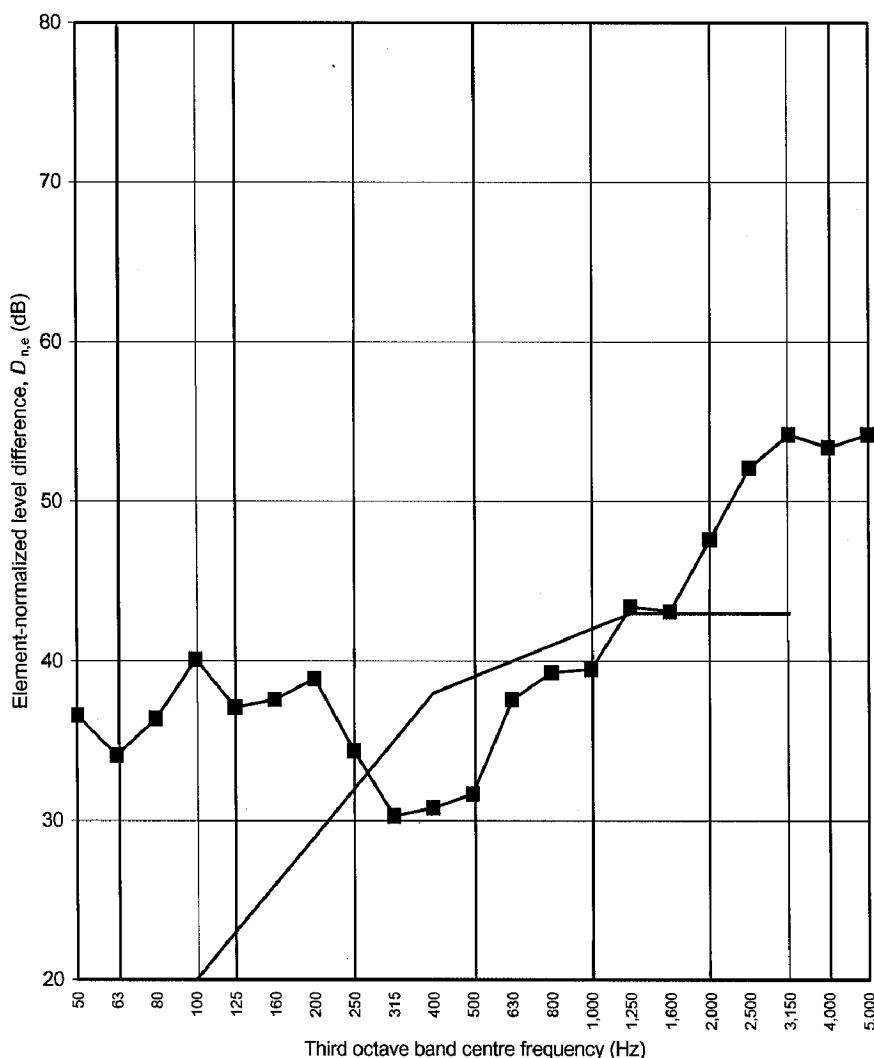
Source room volume: 130 m³

Air temperature: 19 °C

Receive room volume: 115 m³

Air relative humidity: 74 %

Frequency (Hz)	$D_{n,e}$ One-third octave (dB)
50	36.6
63	34.1
80	36.4
100	40.1
125	37.1
160	37.6
200	38.9
250	34.4
315	30.3
400	30.8
500	31.7
630	37.6
800	39.3
1,000	39.5
1,250	43.4
1,600	43.1
2,000	47.6
2,500	52.1
3,150	54.2
4,000	53.4
5,000	54.2



x Adjusted for flanking transmission

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Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C;C_{tr}) = 39 (0;-2) \text{ dB}$ $C_{50-3150} = 0 \text{ dB}$ $C_{50-5000} = 1 \text{ dB}$ $C_{100-5000} = 1 \text{ dB}$
 $C_{tr,50-3150} = -2 \text{ dB}$ $C_{tr,50-5000} = -2 \text{ dB}$ $C_{tr,100-5000} = -2 \text{ dB}$

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BRE horizontal transmission suite (B9 051-053)

Client: Rytons Building Products Ltd

Test date: 23/07/2007

Test number: L107-156

Test element: Ventilator

0578

Filler wall area: 9.8 m²

Description:

TALH&M ventilator assembly;

x1 MFAB96, TAL8000 AirLiner, HM85F Internal (CLOSED)

Source room volume: 130 m³

Air temperature: 19 °C

Receive room volume: 115 m³

Air relative humidity: 74 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	$D_{n,e}$ (dB)
50	3.14	22.3	91.7	58.9	36.4
63	2.21	15.5	100.0	67.8	34.3
80	1.83	13.3	99.7	63.5	37.4
100	1.67	13.7	100.1	60.7	40.3
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2,500	1.50	6.7	97.8	43.7	53.2
3,150	1.45	7.8	97.9	41.4	55.5
4,000	1.38	8.4	98.6	40.9	56.5
5,000	1.26	8.7	95.7	36.3	57.8

x Adjusted for flanking transmission

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

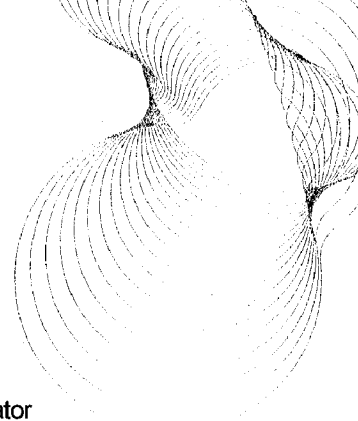
$D_{n,e,w}(C;C_{tr}) = 40 (-1;-3) \text{ dB}$ $C_{50-3150} = -1 \text{ dB}$ $C_{50-5000} = 0 \text{ dB}$ $C_{100-5000} = 0 \text{ dB}$
 $C_{tr,50-3150} = -3 \text{ dB}$ $C_{tr,50-5000} = -3 \text{ dB}$ $C_{tr,100-5000} = -3 \text{ dB}$

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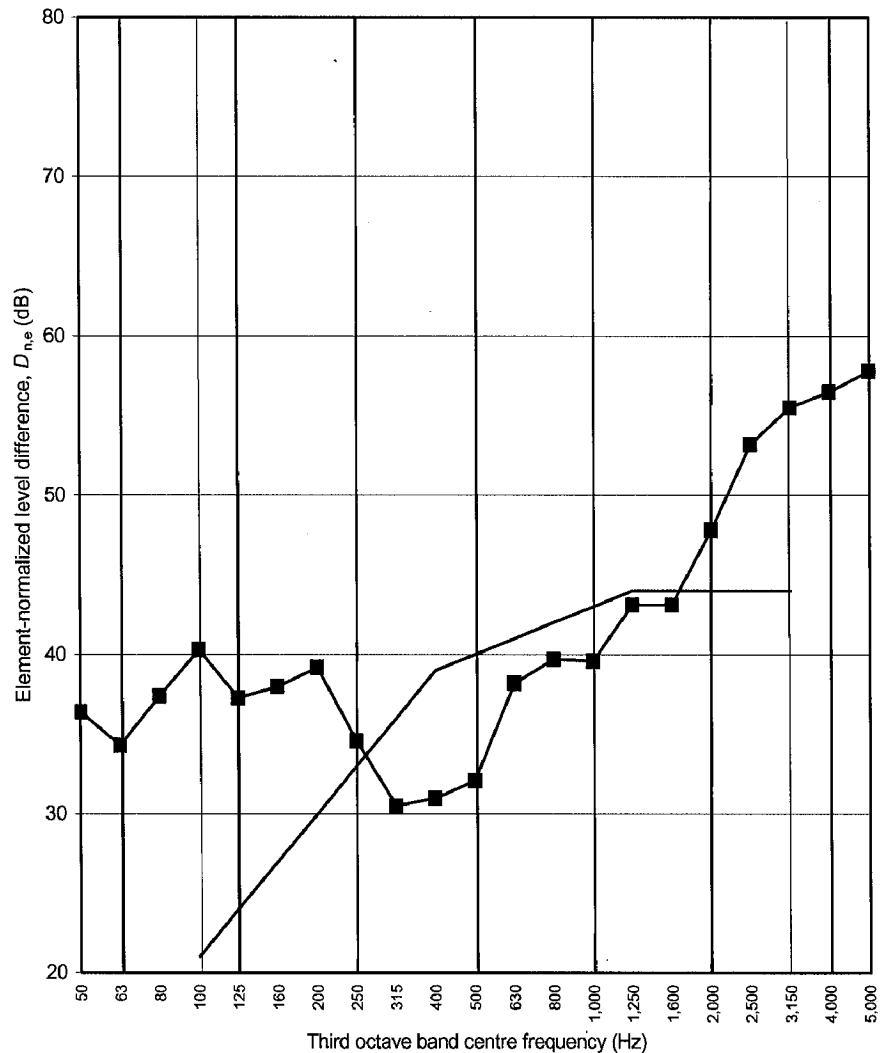
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250	34.6
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2,000	47.8
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Prepared for: Karen Jolley

Rytons Building Products Ltd

20 August 2007

Test report number 238655



0578

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