

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:** L107-160

**Test element:** Ventilator

0578

**Filler wall area:** 9.8 m<sup>2</sup>

**Description:**

TALCWL ventilator assembly;

x1 MFAB96, TAL8000 AirLiner, LF147 Internal, ABC6 Cowl

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 19 °C

**Receive room volume:** 115 m<sup>3</sup>

**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	24.4	91.8	58.3	37.1
63	2.21	16.9	100.1	67.9	34.4
80	1.83	15.6	99.3	63.9	36.7
100	1.67	19.2	100.2	60.9	40.2
125	2.03	11.4	102.8	66.6	37.2
160	1.87	20.0	102.0	63.1	38.9
200	1.87	35.8	102.2	64.2	38.0
250	1.72	14.8	99.9	65.2	34.4
315	1.68	14.6	99.9	66.3	33.2
400	1.61	20.6	99.5	64.1	34.9
500	1.66	9.8	98.8	63.6	34.7
630	1.60	12.6	98.4	59.6	38.2
800	1.47	11.3	97.4	58.5	37.9
1,000	1.45	17.0	96.3	51.0	44.2
1,250	1.51	12.7	98.1	51.3	45.9
1,600	1.48	7.1	98.9	50.3	47.6
2,000	1.52	8.7	97.5	46.4	50.2
2,500	1.50	9.8	97.8	42.3	54.6
3,150	1.45	9.0	97.9	38.4	58.5
4,000	1.38	9.8	98.7	40.6	56.8
5,000	1.26	9.6	95.8	36.2	58.0

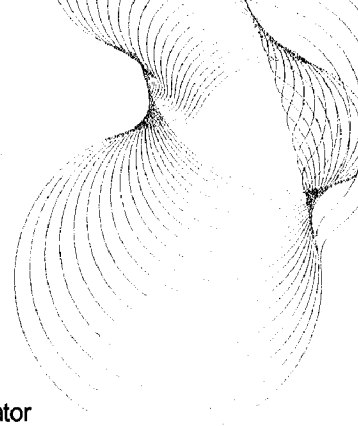
x Adjusted for flanking transmission

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997					
$D_{n,e,w}(C;C_{tr}) = 42 (-1;-3) \text{ dB}$	$C_{50-3150} = -1 \text{ dB}$	$C_{50-5000} = 0 \text{ dB}$	$C_{100-5000} = 0 \text{ dB}$	$C_{tr,50-3150} = -3 \text{ dB}$	$C_{tr,100-5000} = -3 \text{ dB}$
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-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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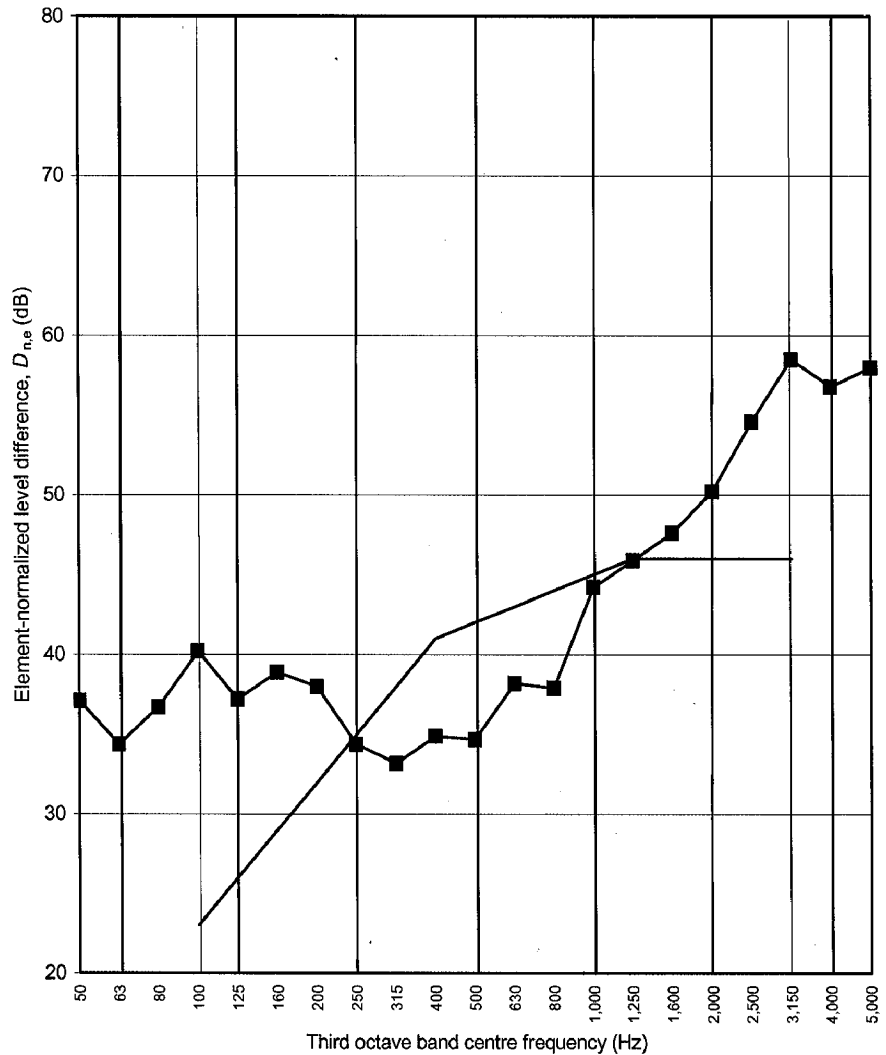
Source room volume: 130 m<sup>3</sup>

Air temperature: 19 °C

Receive room volume: 115 m<sup>3</sup>

Air relative humidity: 74 %

Frequency (Hz)	$D_{n,e}$ One-third octave (dB)
50	37.1
63	34.4
80	36.7
100	40.2
125	37.2
160	38.9
200	38.0
250	34.4
315	33.2
400	34.9
500	34.7
630	38.2
800	37.9
1,000	44.2
1,250	45.9
1,600	47.6
2,000	50.2
2,500	54.6
3,150	58.5
4,000	56.8
5,000	58.0



x Adjusted for flanking transmission

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Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C; C_{tr}) = 42 (-1; -3)$  dB     $C_{50-3150} = -1$  dB     $C_{50-5000} = 0$  dB     $C_{100-5000} = 0$  dB  
 $C_{tr,50-3150} = -3$  dB     $C_{tr,50-5000} = -3$  dB     $C_{tr,100-5000} = -3$  dB

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Prepared for: Karen Jolley

Rytons Building Products Ltd

20 August 2007

Test report number 238655



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