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	o
63	1.51	20.1	97.8	73.5	24.7	o
80	1.28	17.7	96.6	64.3	32.0	o
100	1.56	19.4	97.8	58.3	40.0	o
125	1.72	16.6	98.6	56.6	43.0	o
160	1.72	16.8	96.8	53.3	44.5	o
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	

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

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

$C_{tr,50\text{-}3150}$ = - $C_{tr,50\text{-}5000}$ = - $C_{tr,100\text{-}5000}$ = -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 singl 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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Frequency (Hz)	$D_{n,e}$ One-third octave (dB)	
50	23.8	o
63	24.7	o
80	32.0	o
100	40.0	o
125	43.0	o
160	44.5	o
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	
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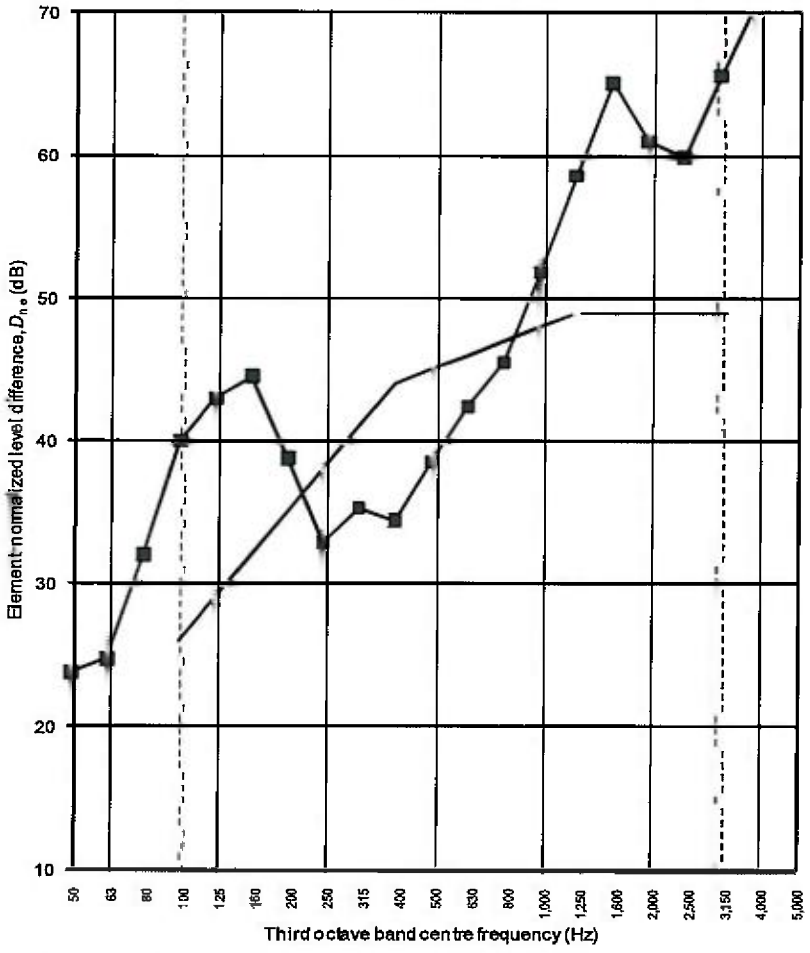
4,000	71.0	
5,000	73.1	



o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

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

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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	o
63	1.51	20.1	98.1	73.0	25.5	o
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5,000	1.13	7.4	100.1	25.2	72.7	

o Correction = 1.3 dB

Rating according to BS EN ISO 717-1:1997

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

$C_{tr,50\text{-}3150}$ = - $C_{tr,50\text{-}5000}$ = - $C_{tr,100\text{-}5000}$ = -4 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 singl 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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Frequency (Hz)	$D_{n,e}$ One-third octave (dB)	
50	24.8	o
63	25.5	o
80	31.3	o
100	40.0	o
125	43.3	o
160	45.0	o
200	40.6	
250	37.0	
315	40.1	
400	37.8	
500	44.4	
630	50.8	
800	53.9	
1,000	61.7	
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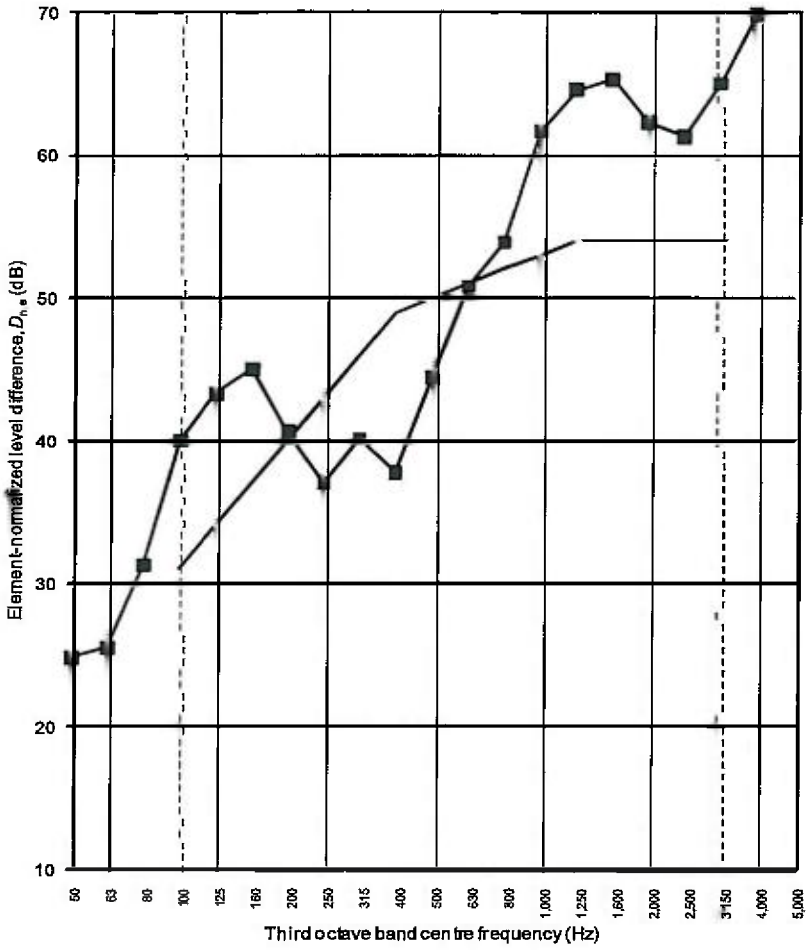


o Correction = 1.3 dB

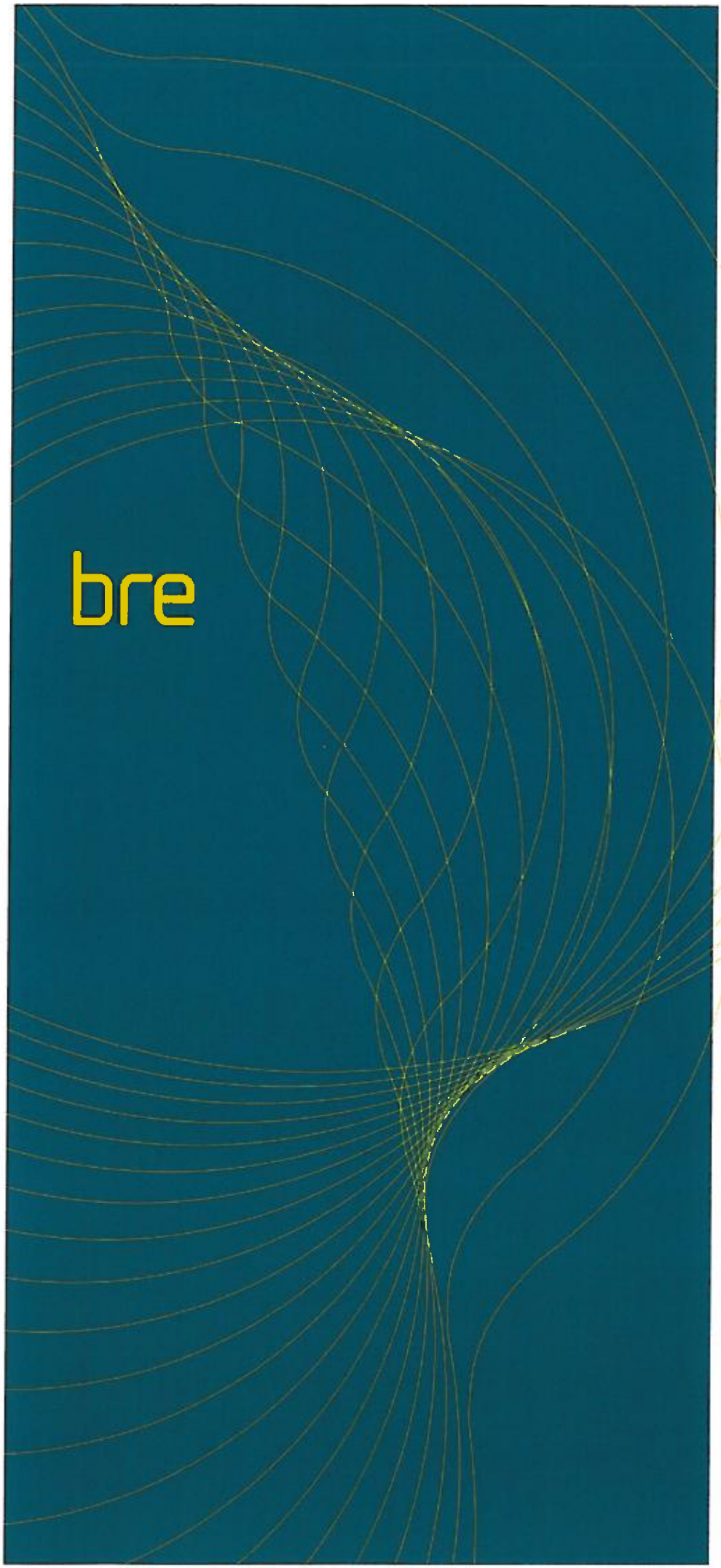
Rating according to BS EN ISO 717-1:1997

$D_{n,e,w}(C;C_{tr})$ = 50 (-1;-4) dB

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



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

Prepared for:
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Test report number **284908**

UKAS TESTING

0578