



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:** L112-079 **Test element:** vent

0578

Filler wall area: 9.8 m²

Description:

AAC125HP-OPEN- Super Acoustic Controllable LookRyt® AirCore®

Source room volume: 130 m³
Receive room volume: 115 m³

Air temperature: 9 °C
Air relative humidity: 55 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	<i>D</i> _{n,e} (dB)
50	1.68	23.1	92.6	68.9	24.6
63	1.51	20.1	98.0	72.8	25.6
80	1.28	17.7	96.6	64.9	31.4
100	1.56	19.4	98.0	58.6	39.9
125	1.72	16.6	98.6	56.4	43.2
160	1.72	16.8	96.7	52.3	45.4
200	1.80	12.1	98.2	57.0	41.6
250	1.58	14.6	95.9	60.2	35.0
315	1.66	11.0	93.7	57.7	35.5
400	1.60	11.8	92.4	54.3	37.5
500	1.57	15.7	93.5	56.3	36.4
630	1.61	14.7	95.1	55.6	38.9
800	1.59	12.1	95.4	55.4	39.4
1,000	1.56	9.3	94.9	49.0	45.1
1,250	1.62	11.3	95.4	40.4	54.4
1,600	1.59	12.8	95.7	35.3	59.8
2,000	1.57	10.3	93.3	37.9	54.7
2,500	1.51	8.7	93.7	35.9	56.9
3,150	1.38	7.5	94.6	32.4	60.9
4,000	1.25	7.9	99.6	30.7	67.2
5,000	1.13	7.4	100.0	27.9	69.9

x Adjusted for flanking transmission

o Correction = 13 dB

Rating according to BS EN ISO 717-1:1997						
<i>D</i> _{n,e,w} (<i>C</i> ; <i>C</i> _{tr}) = 43 (0;-2) dB	<i>C</i> ₅₀₋₃₁₅₀	= 0 dB	<i>C</i> ₅₀₋₅₀₀₀	= 1 dB	<i>C</i> ₁₀₀₋₅₀₀₀	= 1 dB
	<i>C</i> _{tr,50-3150}	= -	<i>C</i> _{tr,50-5000}	= -	<i>C</i> _{tr,100-5000}	= -2 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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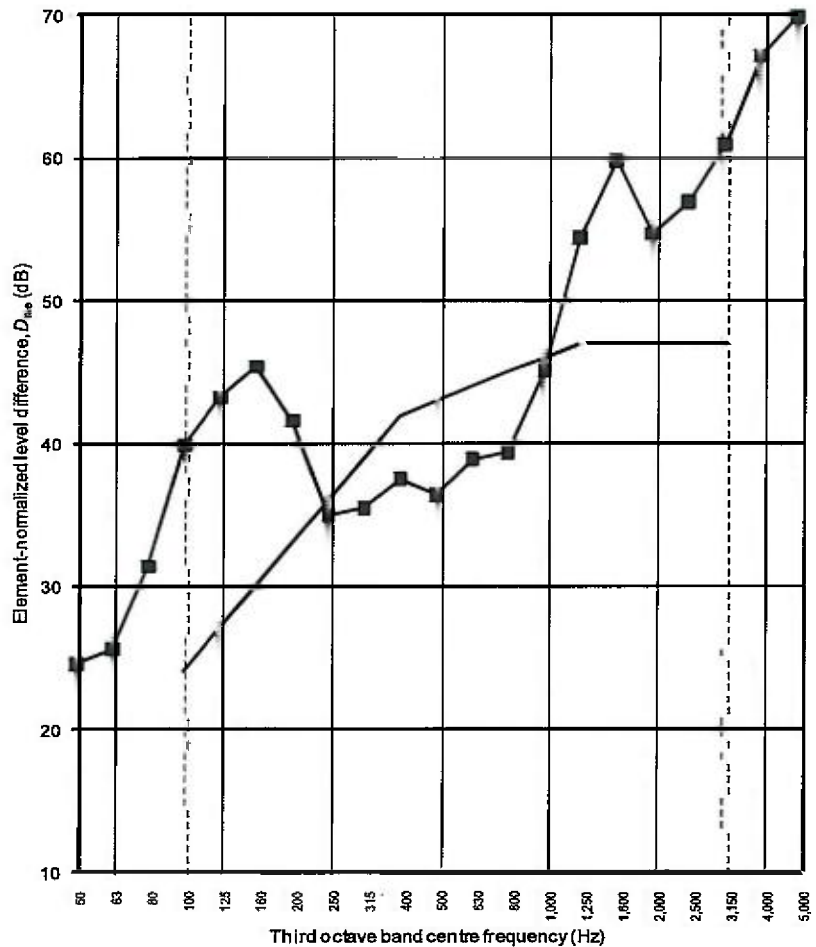
Description:

AAC125HP-OPEN- Super Acoustic Controllable LookRyt® AirCore®

Source room volume: 130 m³
 Receive room volume: 115 m³

Air temperature: 9 °C
 Air relative humidity: 55 %

Frequency (Hz)	D _{n,e} One-third octave (dB)
50	24.6
63	25.6
80	31.4
100	39.9
125	43.2
160	45.4
200	41.6
250	35.0
315	35.5
400	37.5
500	36.4
630	38.9
800	39.4
1,000	45.1
1,250	54.4
1,600	59.8
2,000	54.7
2,500	56.9
3,150	60.9
4,000	67.2
5,000	69.9



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}) = 43 (0;-2) dB	C ₅₀₋₃₁₅₀ = 0 dB	C ₅₀₋₅₀₀₀ = 1 dB	C ₁₀₀₋₅₀₀₀ = 1 dB
	C _{tr,50-3150} = -	C _{tr,50-5000} = -	C _{tr,100-5000} = -2 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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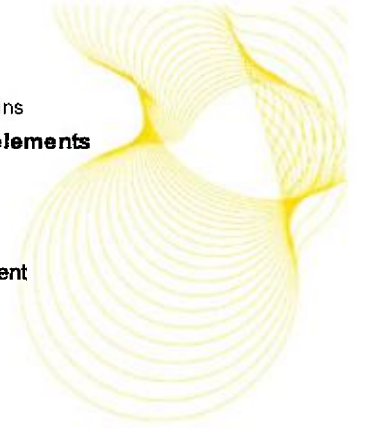
Client: Rytons Building Products Ltd
Test date: 12/02/2013 **Test number:** L112-080 **Test element:** vent

0578

Filler wall area: 9.8 m²

Description:

AAC125HP-CLOSED- Super Acoustic Controllable LookRyt® AirCore®



Source room volume: 130 m³
Receive room volume: 115 m³

Air temperature: 9 °C
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	69.0	25.0
63	1.51	20.1	98.2	73.0	25.7
80	1.28	17.7	96.7	64.9	31.6
100	1.56	19.4	97.5	58.4	39.7
125	1.72	16.6	98.4	56.6	42.8
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315	1.66	11.0	93.8	51.4	42.0
400	1.60	11.8	92.6	49.8	42.2
500	1.57	15.7	93.6	50.3	42.6
630	1.61	14.7	95.2	46.7	48.0
800	1.59	12.1	95.5	46.5	48.3
1,000	1.56	9.3	94.9	39.0	55.2
1,250	1.62	11.3	95.4	31.4	63.5
1,600	1.59	12.8	95.7	31.4	63.7
2,000	1.57	10.3	93.4	33.8	58.9
2,500	1.51	8.7	93.7	33.4	59.4
3,150	1.38	7.5	94.6	31.1	62.3
4,000	1.25	7.9	99.6	29.7	68.2
5,000	1.13	7.4	99.9	26.5	71.3

x Adjusted for flanking transmission

o Correction = 13 dB

Rating according to BS EN ISO 717-1:1997					
$D_{n,e,w}(C;C_{tr}) = 50 (-1;-3) \text{ dB}$	$C_{50-3150} = -1 \text{ dB}$	$C_{50-5000} = 0 \text{ dB}$	$C_{100-5000} = 0 \text{ dB}$	$C_{tr,50-3150} = -$	$C_{tr,100-5000} = -3 \text{ dB}$

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 ±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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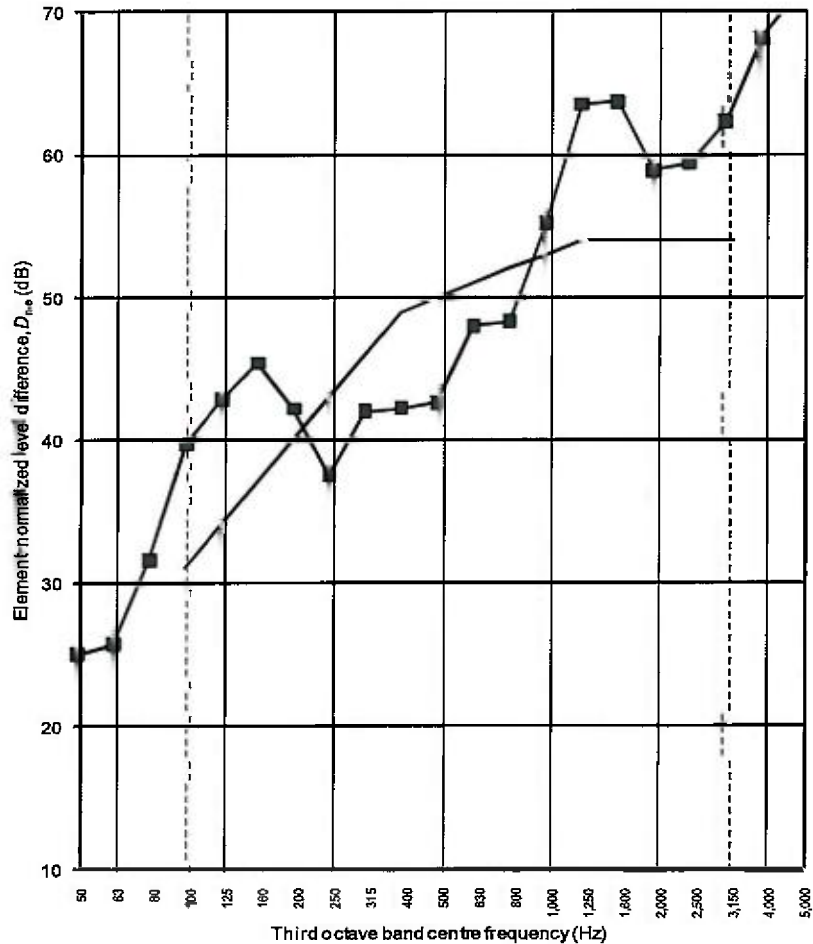
Description:

AAC125HP-CLOSED- Super Acoustic Controllable LookRyt® AirCore®

Source room volume: 130 m³
Receiva room volume: 115 m³

Air temperature: 9 °C
Air relative humidity: 55 %

Frequency (Hz)	$D_{n,e}$ One-third octave (dB)
50	25.0
63	25.7
80	31.6
100	39.7
125	42.8
160	45.4
200	42.2
250	37.5
315	42.0
400	42.2
500	42.6
630	48.0
800	48.3
1,000	55.2
1,250	63.5
1,600	63.7
2,000	58.9
2,500	59.4
3,150	62.3
4,000	68.2
5,000	71.3



x Adjusted for flanking transmission

o Correction = 13 dB

Rating according to BS EN ISO 717-1:1997

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

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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The BRE logo is displayed in a bold, lowercase, yellow sans-serif font. It is positioned on the left side of the page, set against a dark teal background. The background features a complex pattern of thin, yellow, curved lines that create a sense of depth and movement, resembling a stylized architectural or scientific structure.

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