



aes

analytical and environmental services

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Sound Insulation Testing Report

1. Site test address: Westborough Mews, Hambleton Close, Maidstone, Kent
 AES job reference: 10286

2. Property type: Dwelling-house

3. Date(s) of testing: 06 April 2005

4. Test organisation: Analytical and Environmental Services Limited
 Address: 3 Bentley Way, Royal Oak Industrial Estate, Daventry,
 Postcode: NN11 8QH

Test engineer: Mark Greenhalgh

Client name: Crest Nicholson (South East) Limited
 Address: Crest House, 30 High Street, Westerham, Kent
 Postcode: TN16 1RG

Construction details: Walls:
 Type 2: Cavity Masonry. 100mm Celcon 4N standard block laid on Celcon Thin Joint System either side 75mm clear cavity, finished with wet plaster.

Floors:
 n/a

Background noise: Occasional site noise

5. Results

Source Room		Receive Room		Sound insulation performance				Pass/ Fail
Description	Volume m ³	Description	Volume m ³	Measured		Required		
				D _{ntw} +C _{tr}	L _{'ntw}	D _{ntw} +C _{tr}	L _{'ntw}	
Plot 1 living room	39.4	Plot 2 living room	43.9	55	-	45	-	Pass
Plot 1 bedroom 2	24.3	Plot 2 bedroom 3	13.6	55	-	45	-	Pass

Originator: Checked & approved:

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6. Equipment details

Description	Equipment	Type	AES ref.	Certification number	Expiration date of calibration
Sound level analyser	B&K	2260	4070	13076	13/08/2006
Acoustic calibrator	B&K	4189	4071	13076	13/08/2005
Microphone	B&K	4231	4072	13076	13/08/2005
Wireless Radio Kit	Shure	PGX14	-	n/a	n/a
Active loudspeaker	JBL	EON Power 15	-	n/a	n/a
Tapping machine	B&K	-	4067	n/a	n/a
Various cables					

7. Methodology

The tests detailed in this report have been carried out in full accordance with ISO 140-4 and/or ISO 140-7. All the procedures in Annex B of the Approved Document to the Building Regulations have been followed.

Background noise level measurements consisted of a 30 second sample in each of the receiving rooms.

The noise source for the airborne sound insulation tests was a white noise generator and it was ensured where possible that receiving room levels were at least 10 dB above the background noise.

For airborne tests, two loudspeaker positions were measured at five microphone positions in both the source and receive rooms for 15 second samples.

For reverberation time (RT) measurements, a continuous noise source was used with one loudspeaker position. Measurements were made at two different heights at each of three microphone positions. The results presented are based on extrapolation of RT30 measurements or RT20 measurements when the former is not available.

The weighted standardised level differences ($D_{nT,w}$) and weighted standardised impact sound pressure levels ($L'_{nT,w}$) were been calculated in accordance with BS EN ISO 717:1997(3) Rating of sound insulation in buildings and of building elements, Part 1 Airborne sound insulation, and Part 2 Impact sound insulation.

Standardized level difference according to ISO 140-4 Field measurements of airborne sound insulation between rooms

Client: Crest Nicholson (South East) Limited

Date of test: 06 April 2005

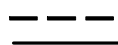
Description and identification of the building construction and the test arrangement, direction of measurement:

Airborne, Plot 1 living room to Plot 2 living room

Construction details: Type 2: Cavity Masonry. 100mm Celcon 4N standard block laid on Celcon Thin Joint System either side 75mm clear cavity, finished with wet plaster.

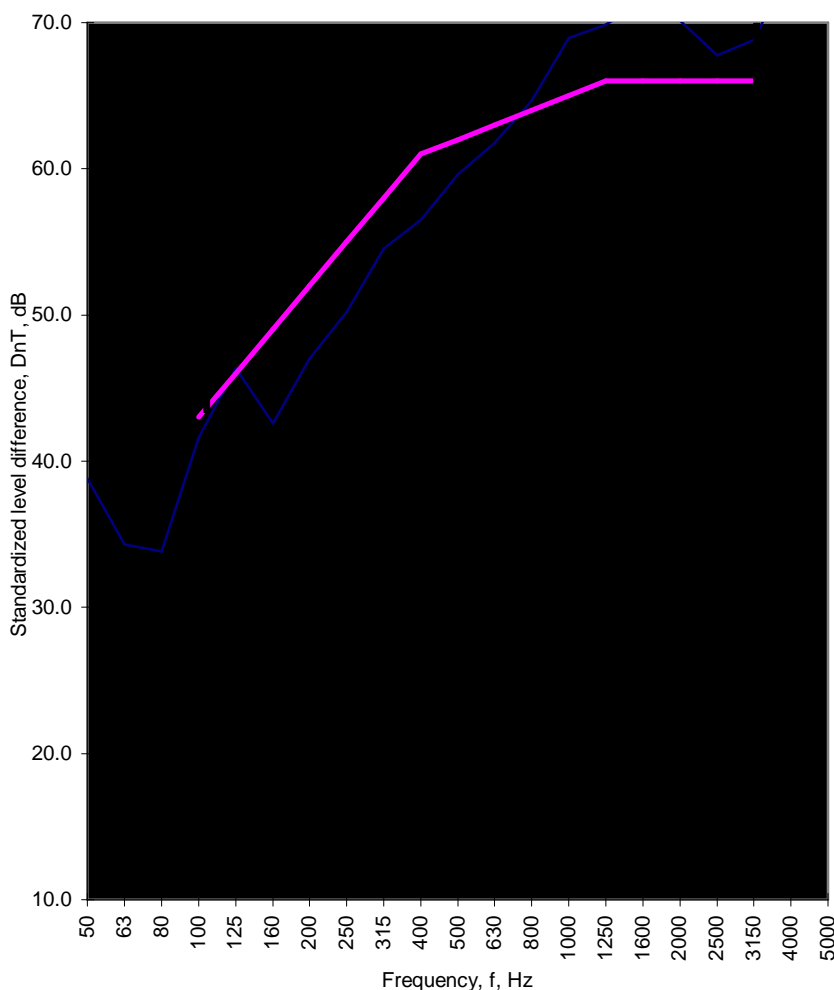


Source room volume: 39.4 m³
Receiving room volume: 43.9 m³



Frequency range according to the curve of reference values (ISO 717-1)

Frequency f Hz	DnT (one-third octave) dB
50	38.8
63	34.3
80	33.8
100	41.6
125	46.4
160	42.6
200	47.0
250	50.2
315	54.5
400	56.5
500	59.6
630	61.8
800	64.6
1000	69.0
1250	69.9
1600	71.4
2000	70.1
2500	67.8
3150	68.8
4000	73.9
5000	78.5



* Signifies value at limit of measurement

Rating according to ISO 717-1

DnT,w (C;Ctr) = 62 (-2 ; -7) dB C50-3150 -3 dB C50-5000 -2 dB C100-5000 -1 dB

Evaluation based on field measurement results obtained by an engineering method Ctr,50-3150 -11 dB Ctr,50-5000 -11 dB Ctr,100-5000 -7 dB

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Analytical & Environmental Services
Signature:

**Standardized level difference according to ISO 140-4
Field measurements of airborne sound insulation between rooms**

Client: Crest Nicholson (South East) Limited Date of test: 06 April 2005

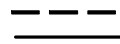
Description and identification of the building construction and the test arrangement, direction of measurement:

Airborne, Plot 1 bedroom 2 to Plot 2 bedroom 3

Construction details: Type 2: Cavity Masonry. 100mm Celcon 4N standard block laid on Celcon Thin Joint System either side 75mm clear cavity, finished with wet plaster.

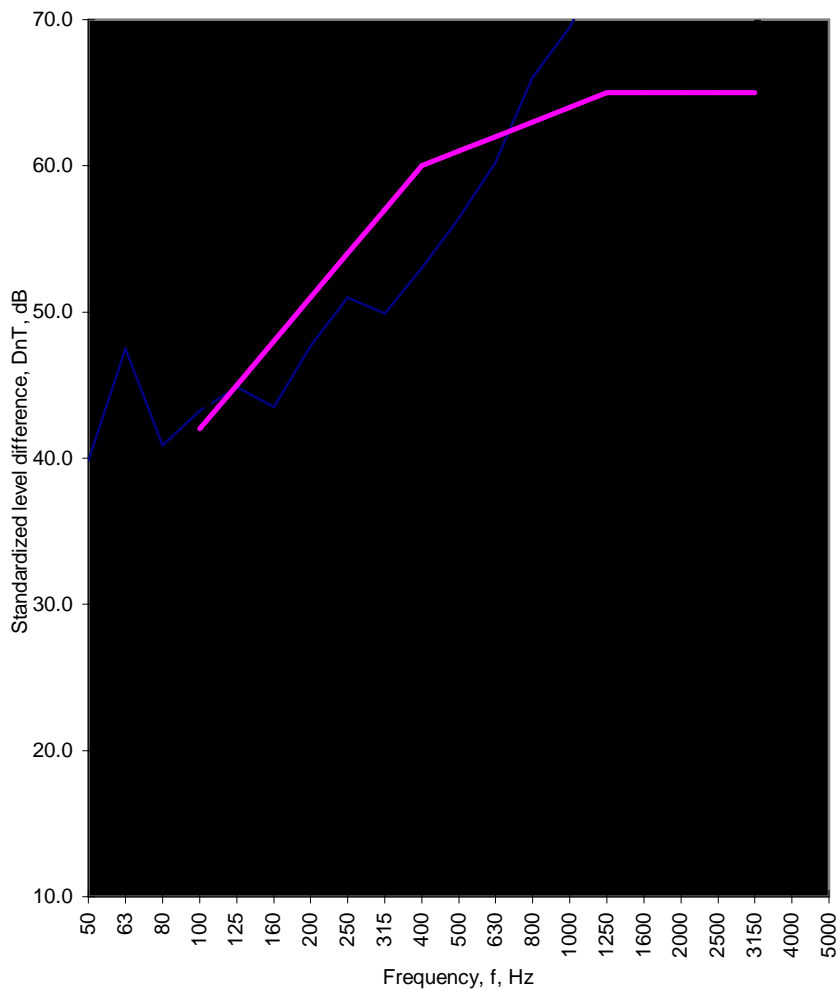


Source room volume: 24.3 m³
Receiving room volume: 13.6 m³



Frequency range according to the curve of reference values (ISO 717-1)

Frequency f Hz	DnT (one-third octave) dB
50	39.8
63	47.5
80	40.9
100	43.2
125	44.8
160	43.5
200	47.7
250	51.0
315	49.9
400	53.0
500	56.4
630	60.2
800	66.1
1000	69.5
1250	74.3
1600	78.8
2000	75.2
2500	75.9
3150	78.0
4000	78.5
5000	86.5



* Signifies value at limit of measurement

Rating according to ISO 717-1

DnT,w (C;Ctr) =	61 (-2 ; -6) dB	C50-3150	-2 dB	C50-5000	-1 dB	C100-5000	-1 dB
Evaluation based on field measurement results obtained by an engineering method		Ctr,50-3150	-7 dB	Ctr,50-5000	-7 dB	Ctr,100-5000	-6 dB

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