PROSOUND™

ReductoClip System

Wall Performance Data

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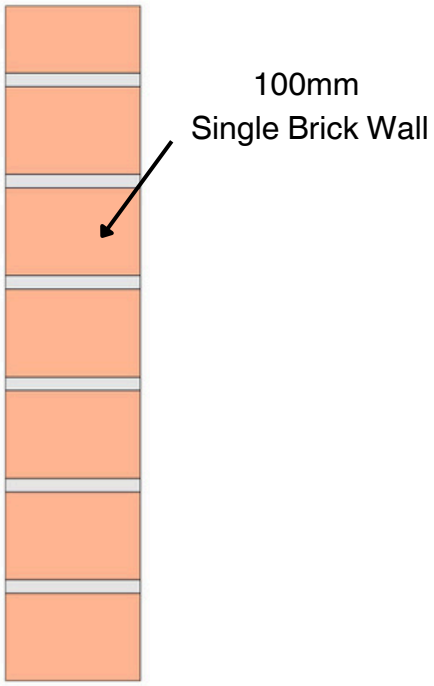
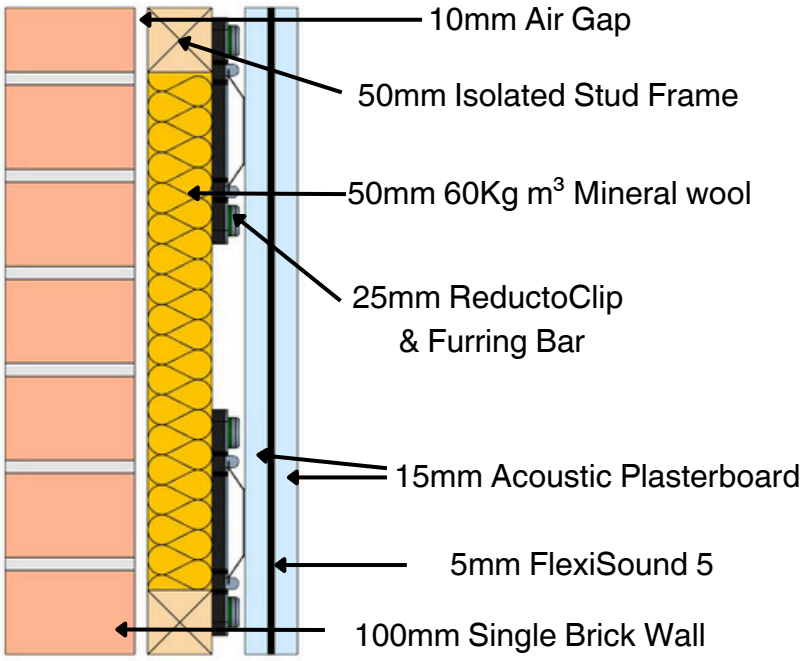
Solid Brick Wall (ReductoClip Independent Wall System): Build-up

Untreated Wall



Treated Wall

Fig.1

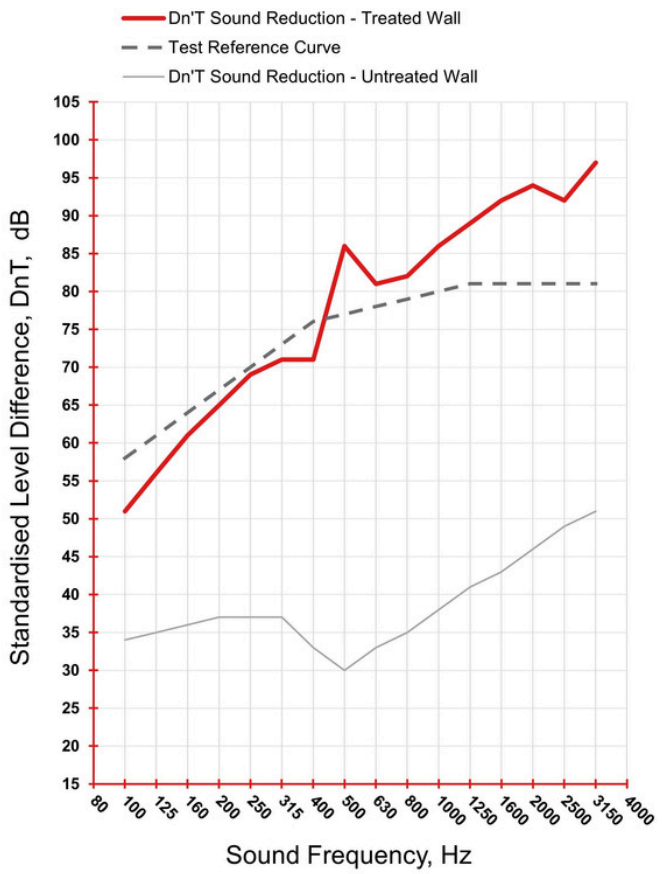


Structure Layers	Weight Per Sqm
100mm Single brick wall	160Kg m^2 - est
10mm Airgap	N/A
50mm Timber Stud Frame with Isolation strip	N/A
50mm 60kg m^3 Acoustic Mineral Wool Filling Stud Frame	3Kg m^2
25mm ReductoClip & Furring Bar	N/A
15mm Acoustic Plasterboard	12.8Kg m^2
5mm FlexiSound 5	10Kg m^2
15mm Acoustic Plasterboard	12.8Kg m^2

Solid Brick Wall (ReductoClip Independent Wall System): Test Data

Standardised airborne sound level difference according to BS EN ISO 140-4
Field measurement of airborne sound insulation between rooms
Source room volume - 50m^3
Receiving room volume - 50m^3

Frequency - Hz	DnT Value 1/3 Octave -dB Untreated Wall	DnT Value 1/3 Octave -dB Treated Wall
63	#	#
80	#	#
100	34	51
125	35	56
160	36	61
200	37	65
250	37	69
315	37	71
400	33	71
500	30	86
630	33	81
800	35	82
1000	38	86
1250	41	89
1600	43	92
2000	46	94
2500	49	92
3150	51	97
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 34Hz

Reference: Fig. 1

Airborne Sound Test Results

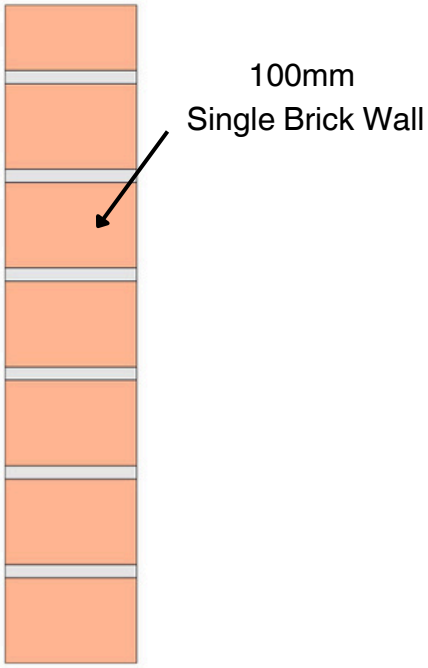
Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 38dB	DnT,w = 77dB	DnT,w = 39dB
DnT,w + Ctr = 36dB	DnT,w + Ctr = 68dB	DnT,w + Ctr = 32dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

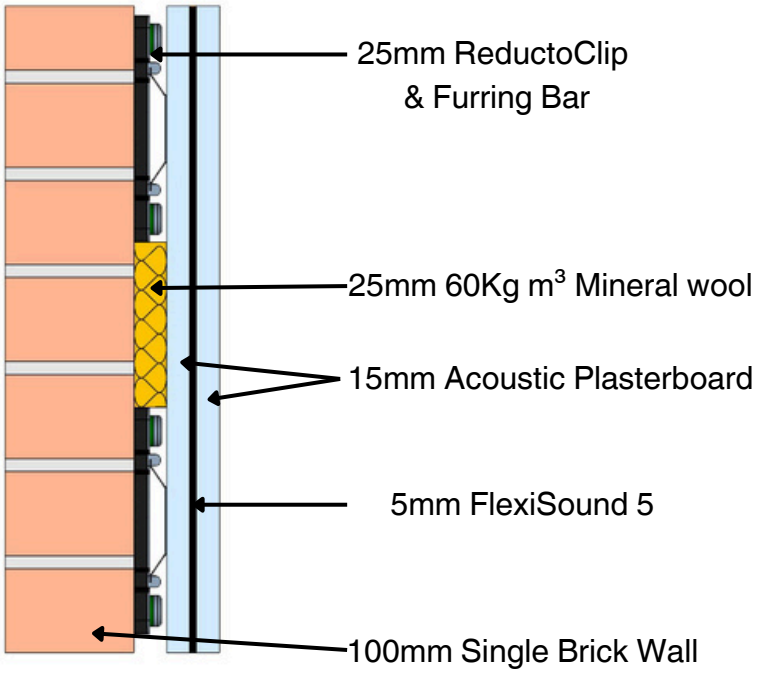
Solid Brick Wall (ReductoClip Direct To Wall System): Build-up

Untreated Wall



Treated Wall

Fig.2

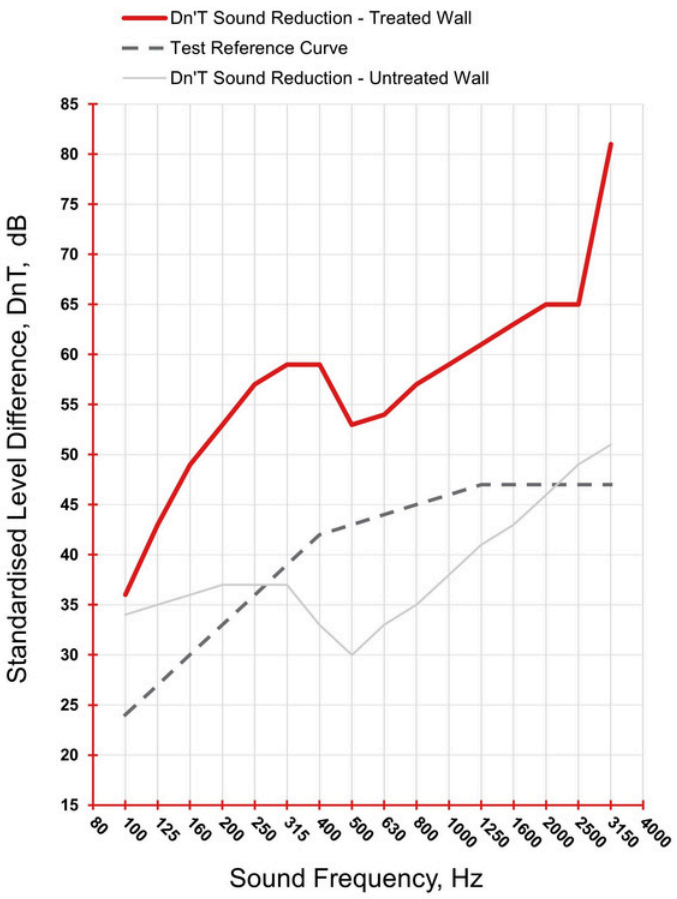


Structure Layers	Weight Per Sqm
100mm Single brick wall	160Kg m^2 - est
25mm ReductoClip & Furring Bar	N/A
25mm 60kg m^3 Acoustic Mineral Glued Between Furring Bars	1.5Kg m^2
15mm Acoustic Plasterboard	12.8Kg m^2
5mm FlexiSound 5	10Kg m^2
15mm Acoustic Plasterboard	12.8Kg m^2

Solid Brick Wall (ReductoClip Direct To Wall System): Test Data

Standardised airborne sound level difference according to BS EN ISO 140-4
Field measurement of airborne sound insulation between rooms
Source room volume - 50m^3
Receiving room volume - 50m^3

Frequency - Hz	DnT Value 1/3 Octave -dB Untreated Wall	DnT Value 1/3 Octave -dB Treated Wall
63	#	#
80	#	#
100	34	36
125	35	43
160	36	49
200	37	53
250	37	57
315	37	59
400	33	59
500	30	53
630	33	54
800	35	57
1000	38	59
1250	41	61
1600	43	63
2000	46	65
2500	49	65
3150	51	81
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 63Hz

Reference: Fig. 2

Airborne Sound Test Results

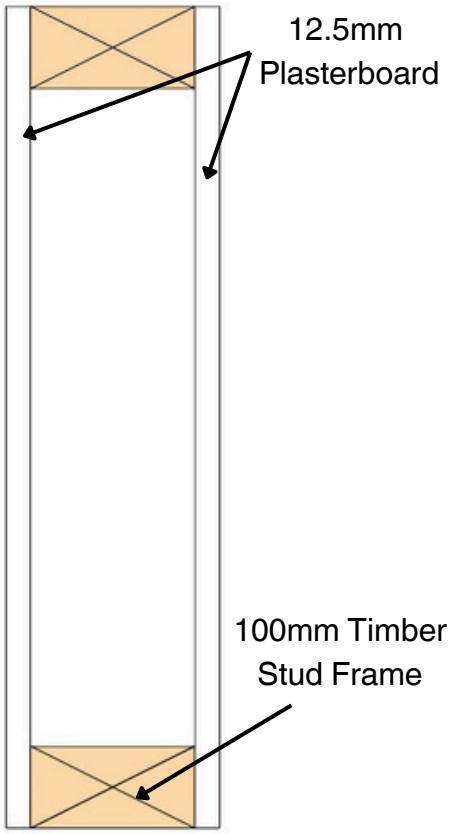
Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 38dB	DnT,w = 61dB	DnT,w = 23dB
DnT,w + Ctr = 36dB	DnT,w + Ctr = 55dB	DnT,w + Ctr = 19dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

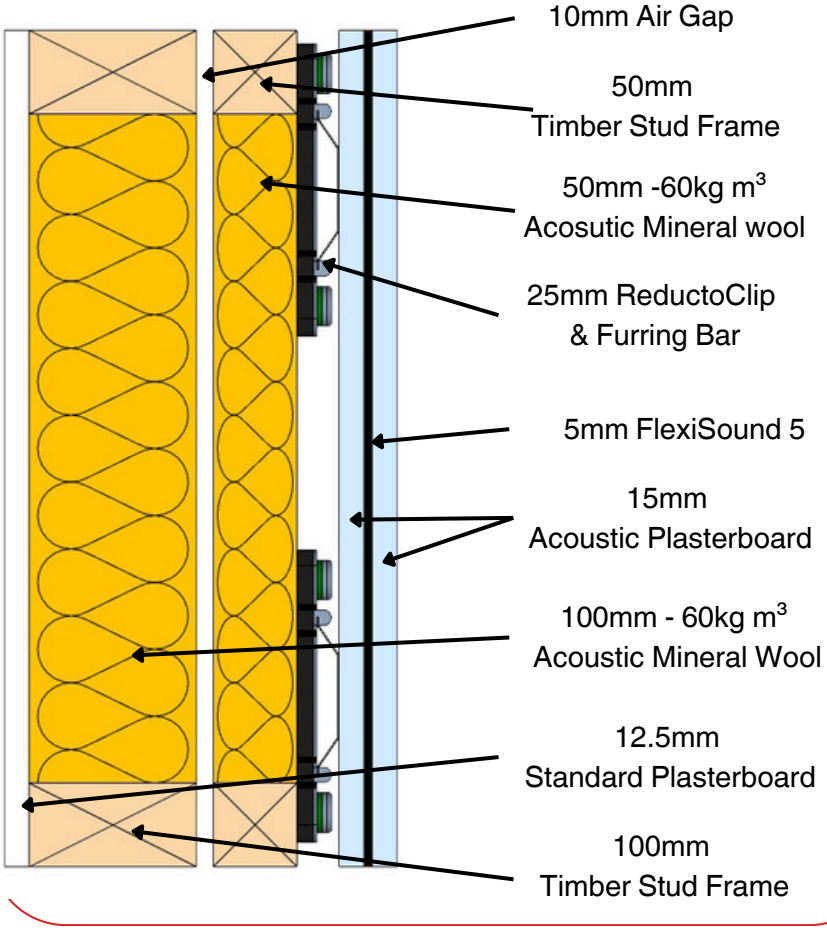
Stud Partition Wall (ReductoClip Independent Wall System): Build-up

Untreated Wall



Treated Wall

Fig.3



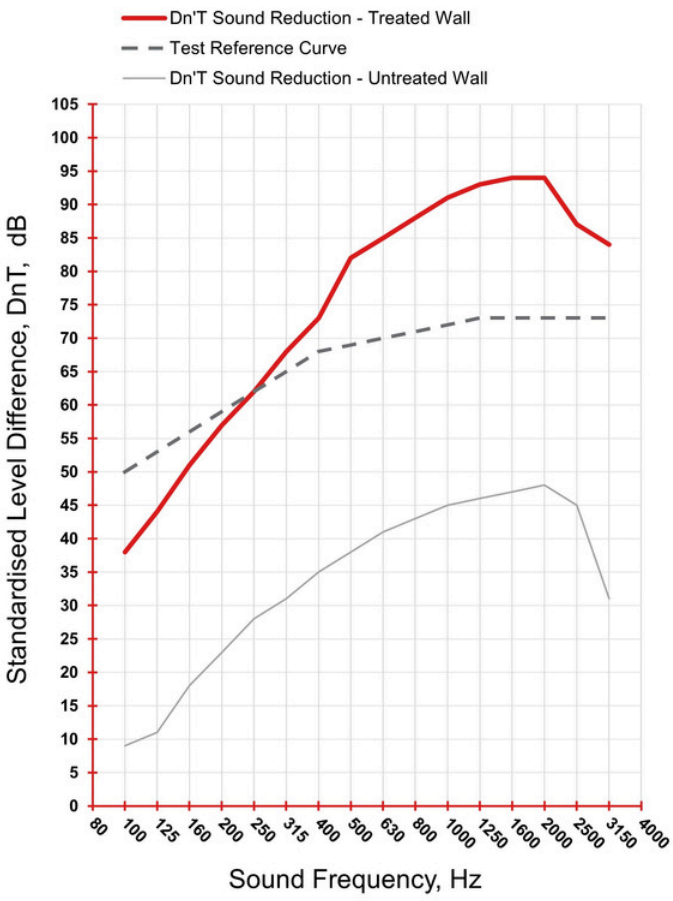
Structure Layers	Weight Per Sqm
12.5mm Standard Plasterboard	8.3Kg m^2
100mm Timber Stud Frame filled with 100mm 60kg m^3 mineral wool	6Kg m^2
Air Gap	N/A
50mm Timber Stud Frame filled with 50mm 60kg m^3 mineral wool	3Kg m^2
25mm ReductoClip & Furring Bar	N/A
15mm Acoustic Plasterboard	12.8Kg m^2
5mm FlexiSound 5	10Kg m^2
15mm Acoustic Plasterboard	12.8Kg m^2

Stud Partition Wall (ReductoClip Independent Wall System): Test Data

Standardised airborne sound level difference according to BS EN ISO 140-4
Field measurement of airborne sound insulation between rooms
Source room volume - 43m^3
Receiving room volume - 43m^3

Frequency - Hz	DnT Value 1/3 Octave -dB Untreated Wall	DnT Value 1/3 Octave -dB Treated Wall
63	#	#
80	#	#
100	9	38
125	11	44
160	18	51
200	23	57
250	28	62
315	31	68
400	35	73
500	38	82
630	41	85
800	43	88
1000	45	91
1250	46	93
1600	47	94
2000	48	94
2500	45	87
3150	31	84
4000	#	#

# Indicates limitations of measurements
* Resonate Frequency - 46Hz



Reference: Fig. 3

Airborne Sound Test Results

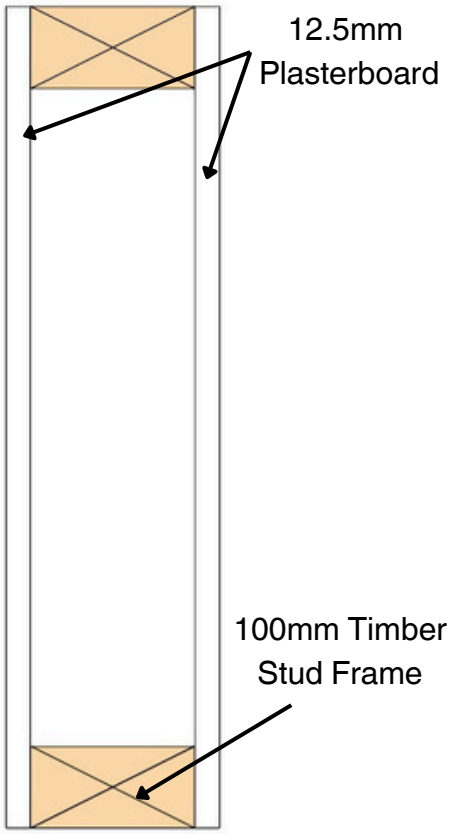
Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 35dB	DnT,w = 69dB	DnT,w = 34dB
DnT,w + Ctr = 26dB	DnT,w + Ctr = 56dB	DnT,w + Ctr = 30dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

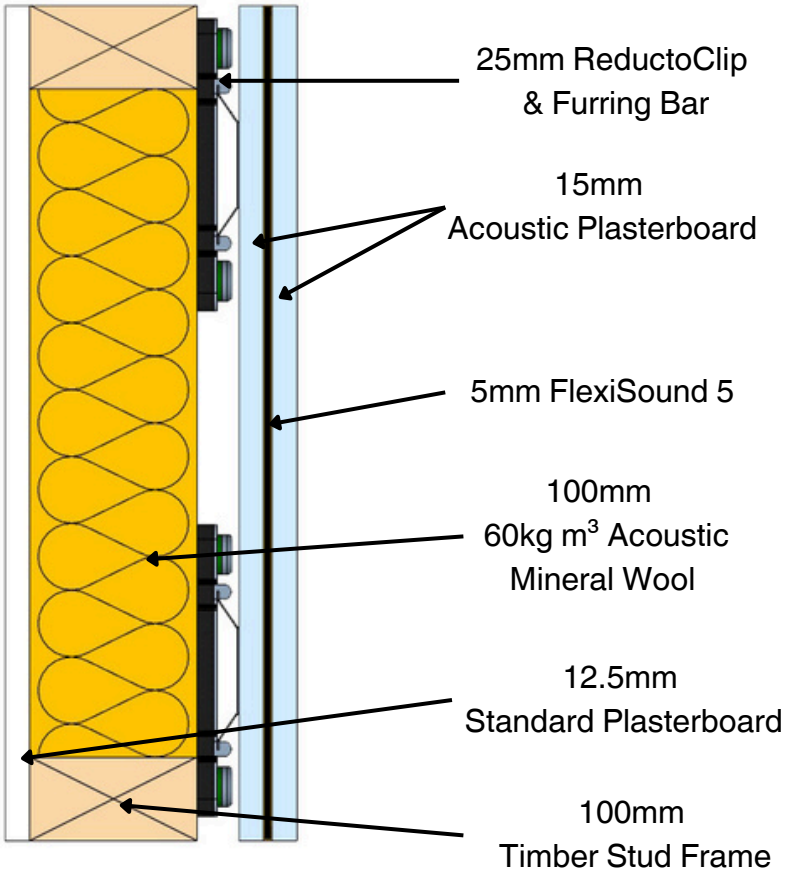
Stud Partition Wall (ReductoClip Direct To Wall System): Build-up

Untreated Wall



Treated Wall

Fig.4

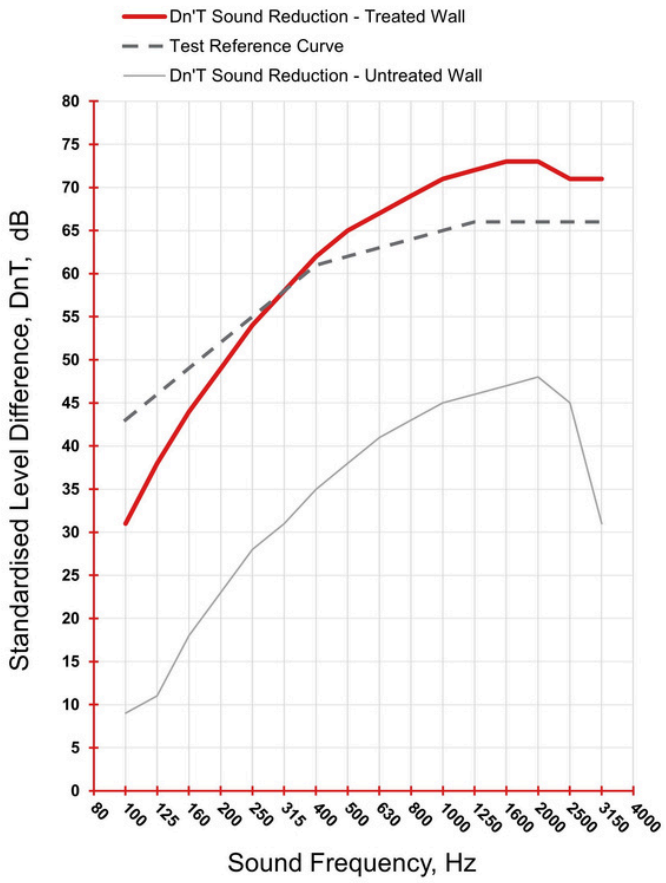


Structure Layers	Weight Per Sqm
12.5mm Standard Plasterboard	8.3Kg m^2
100mm Timber Stud Frame filled with 100mm 60kg m^3 mineral wool	6Kg m^2
25mm ReductoClip & Furring Bar	N/A
15mm Acoustic Plasterboard	12.8Kg m^2
5mm FlexiSound 5	10Kg m^2
15mm Acoustic Plasterboard	12.8Kg m^2

Stud Partition Wall (ReductoClip Independent Wall System): Test Data

Standardised airborne sound level difference according to BS EN ISO 140-4
Field measurement of airborne sound insulation between rooms
Source room volume - 43m^3
Receiving room volume - 43m^3

Frequency - Hz	DnT Value 1/3 Octave -dB Untreated Wall	DnT Value 1/3 Octave -dB Treated Wall
63	#	#
80	#	#
100	9	31
125	11	38
160	18	44
200	23	49
250	28	54
315	31	58
400	35	62
500	38	65
630	41	67
800	43	69
1000	45	71
1250	46	72
1600	47	73
2000	48	73
2500	45	71
3150	31	71
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 56Hz

Reference: Fig. 4

Airborne Sound Test Results

Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 35dB	DnT,w = 62dB	DnT,w = 27dB
DnT,w + Ctr = 26dB	DnT,w + Ctr = 50dB	DnT,w + Ctr = 24dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

Part E Regulations For England & Wales

Element of Construction	Airborne Sound DnT,w + Ctr Minimum Value	Impact Sound L'nT,w Maximum Value
Walls		
Separating wall between purpose built dwelling-houses and flats (i.e. new build)	(Higher than) 45dB	N/A
Dwelling-houses and flats formed by a material change of use. (i.e. conversions) & purpose built rooms for residential use.	(Higher than) 43dB	N/A

Part E Regulations For Scotland

Element of Construction	Airborne Sound DnT,w Minimum Value	Impact Sound L'nT,w Maximum Value
Walls		
Separating walls between dwelling-houses, flats and rooms for residential purposes. New build, conversions and conversion of traditional buildings.	(Higher than) 56dB	N/A

Technical Terms

DnT,w - Weighted Standardised Field Level Difference

The difference, in decibels, between the level of noise either side of a structure tested in the field / on site.

This measurement type is used in Scottish Part E Building Regulations.

DnT,w + Ctr - Weighted Standardised Field Level Difference Adjusted For Control

The difference, in decibels, between the level of noise either side of a structure tested in the field / on site. But it is adjusted to include how well it stops low frequency noise.

This measurement type is used in England and Wales Part E Building Regulations.

Sound Tests

Sound Tests are carried out by and independent testing company.

High volume “white” noise is generated from a single loudspeaker in the source room, positioned in order to obtain a diffuse sound field.

A spatial average of the resulting one-third octave band noise levels between 100 Hz and 3150 Hz is obtained by using a moving microphone technique over a minimum period of 15 seconds at one position.

The same measurement procedure is followed in the receiver room.

The entire procedure is then repeated, with the loudspeaker located in a different position.

The results of the tests are rated in accordance with BS EN ISO 717-1: 1997