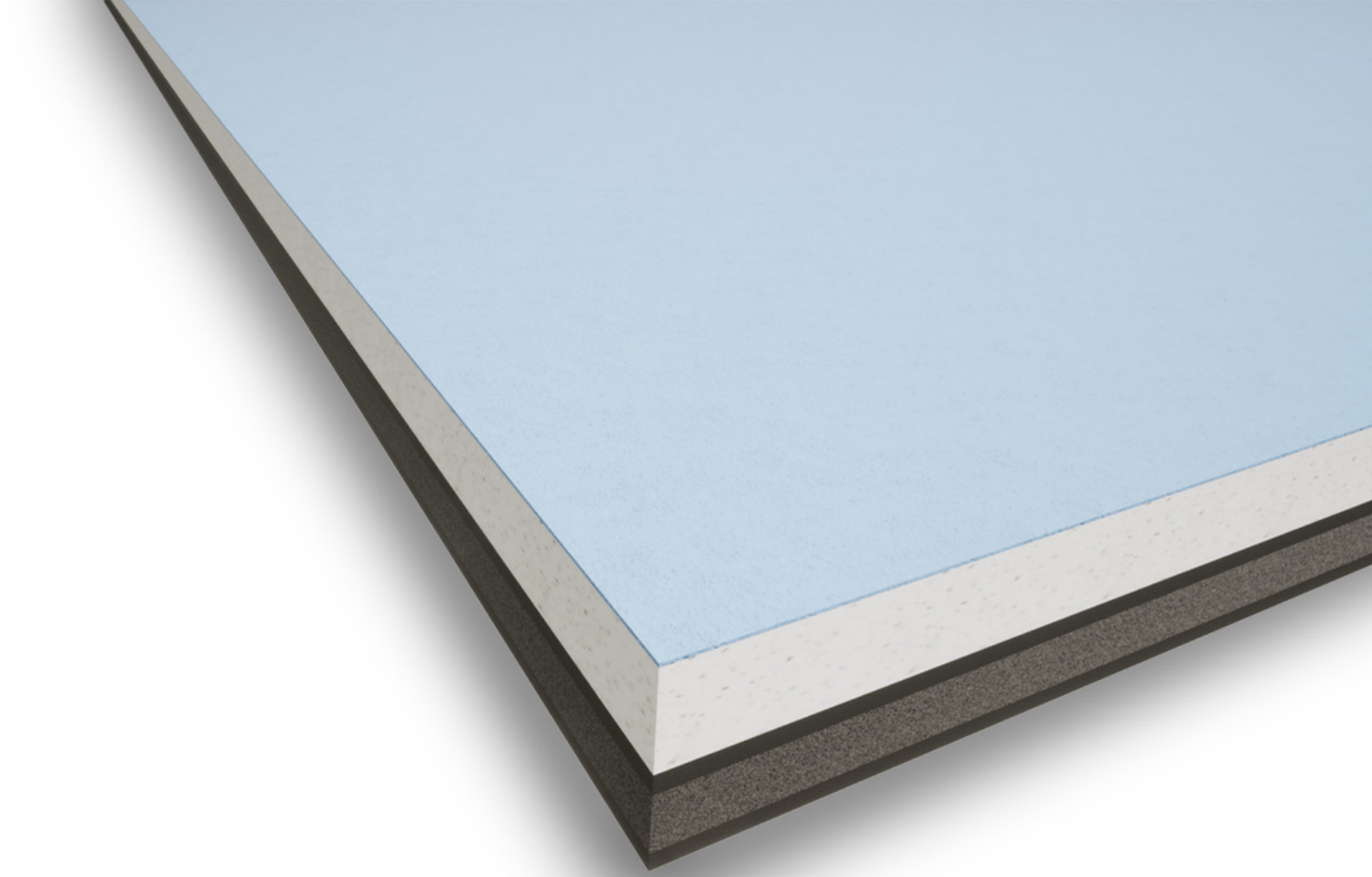


PRO SOUND™

SoundBoard 4

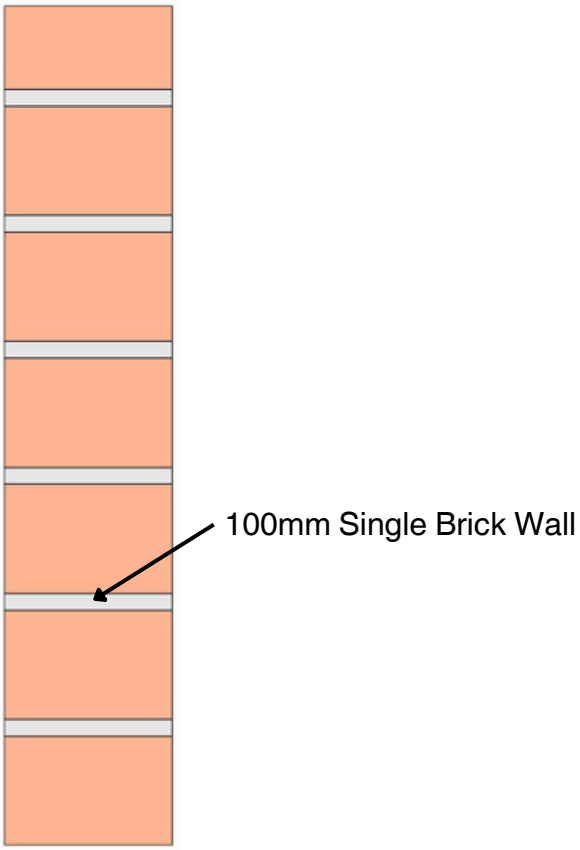
Wall Performance Data

the soundproofing store

www.soundproofingstore.co.uk
sales@soundproofingstore.co.uk
01423 206208

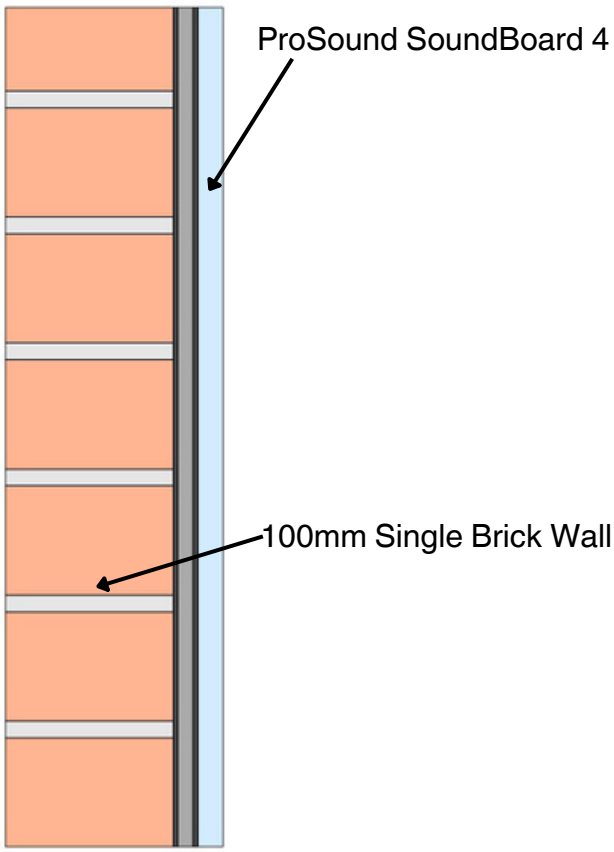
Solid Brick Wall: Build-up

Untreated Wall



Treated Wall

Fig.1

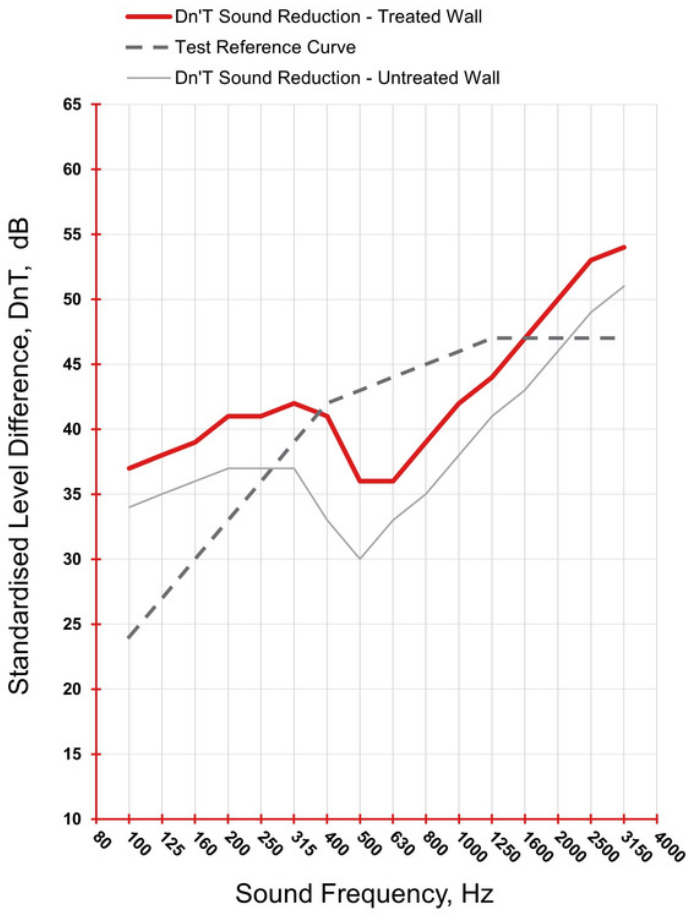


Structure Layers	Weight Per Sqm
100mm Single brick wall	160Kg m^2 - est
30mm ProSound Soundboard 4 fixed directly to brick wall	29Kg m^2

Solid Brick Wall: 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	37
125	35	38
160	36	39
200	37	41
250	37	41
315	37	42
400	33	41
500	30	36
630	33	36
800	35	39
1000	38	42
1250	41	44
1600	43	47
2000	46	50
2500	49	53
3150	51	54
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 530Hz

Reference: Fig. 1

Airborne Sound Test Results

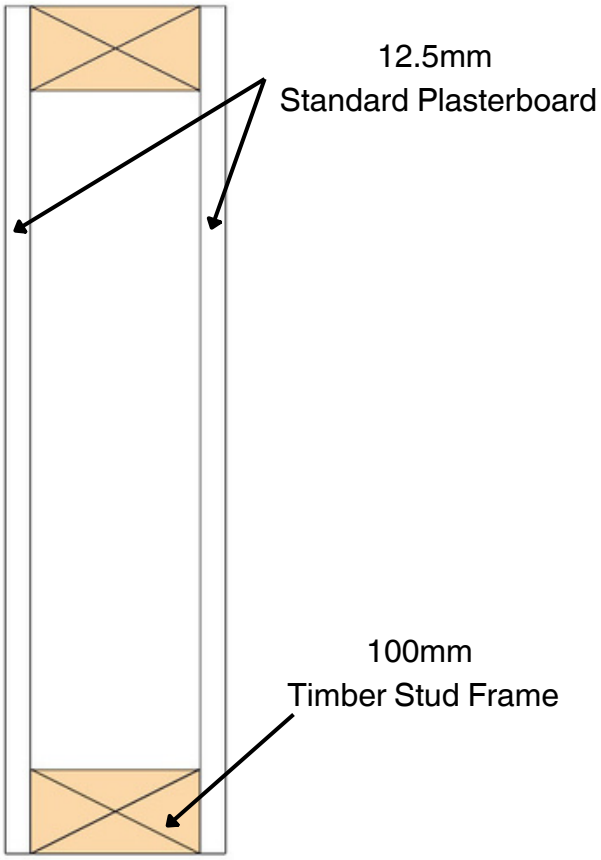
Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 38dB	DnT,w = 43dB	DnT,w = 5dB
DnT,w + Ctr = 36dB	DnT,w + Ctr = 41dB	DnT,w + Ctr = 5dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

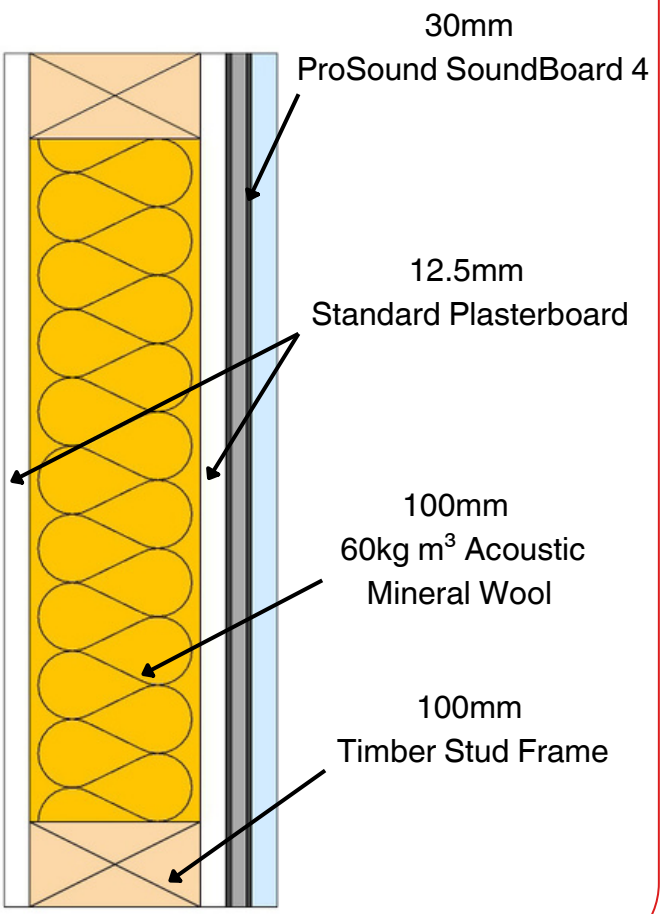
Stud Partition Wall: Build-up

Untreated Wall



Treated Wall

Fig.2

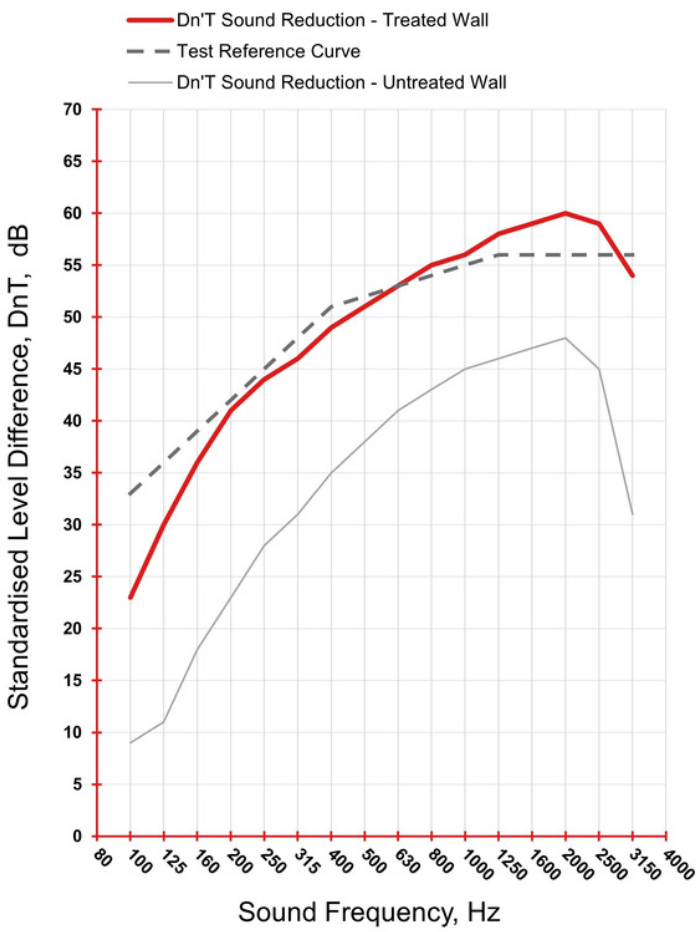


Structure Layers	Weight Per Sqm
12.5mm Standard Plasterboard	8.3Kg m^2
100mm Timber Stud Frame	N/A
100mm 60kg m^3 Acoustic Mineral Wool Filling Stud Frame	6Kg m^2
12.5mm Standard Plasterboard	8.3Kg m^2
30mm ProSound SoundBoard 4	29Kg m^2

Stud Partition Wall: 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	23
125	11	30
160	18	36
200	23	41
250	28	44
315	31	46
400	35	49
500	38	51
630	41	53
800	43	55
1000	45	56
1250	46	58
1600	47	59
2000	48	60
2500	45	59
3150	31	54
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 63Hz

Reference: Fig. 2

Airborne Sound Test Results

Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 35dB	DnT,w = 52dB	DnT,w = 17dB
DnT,w + Ctr = 26dB	DnT,w + Ctr = 41dB	DnT,w + Ctr = 15dB

Rating according to ISO 717-1

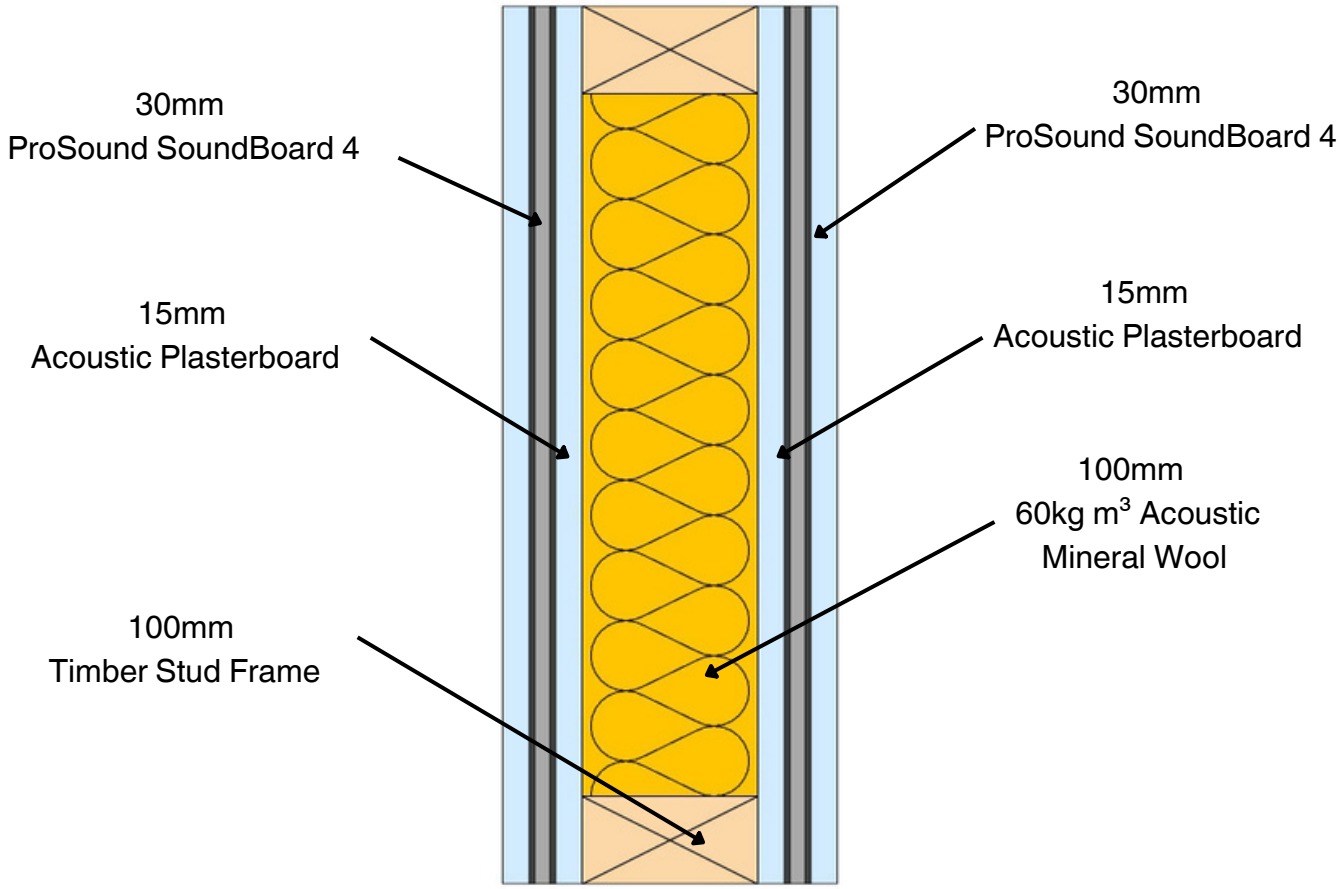
With airborne noise a higher value equals a better performance

Stud Partition Wall Build-up: (Recommended for Part E)

The below is recommended when needing to pass Part E Building Regulations.

Fig.3

Treated Wall



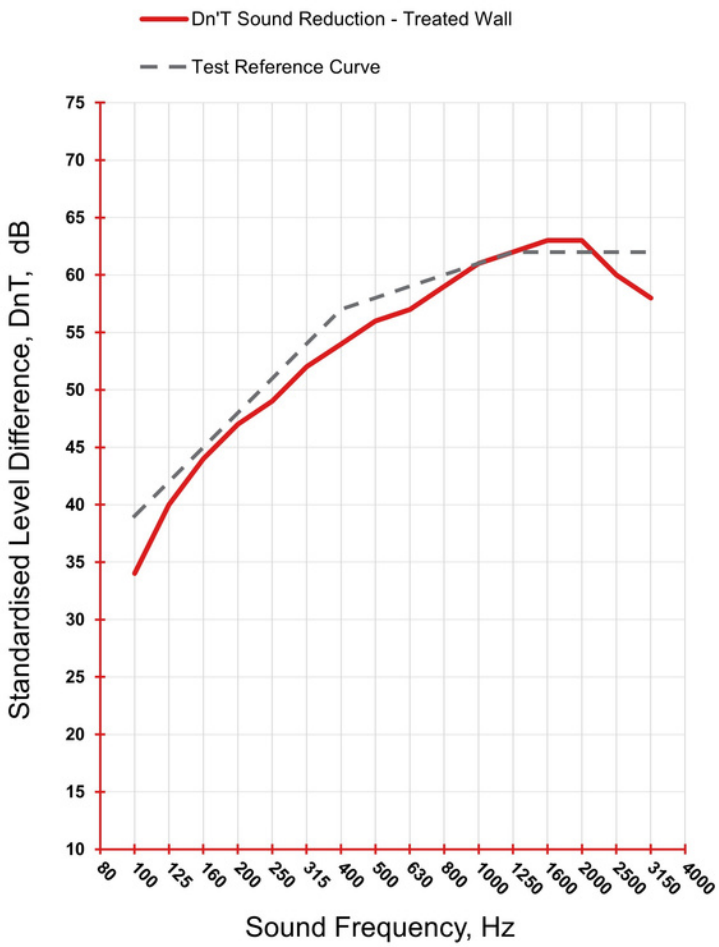
Structure Layers	Weight Per Sqm
30mm ProSound SoundBoard 4	29Kg m^2
15mm Acoustic Plasterboard	12.5Kg m^2
100mm Timber Stud Frame	N/A
100mm 60kg m^3 Acoustic Mineral Wool Filling Stud Frame	6Kg m^2
15mm Acoustic Plasterboard	12.5Kg m^2
30mm ProSound SoundBoard 4	29Kg m^2

Stud Partition Wall Test Data: (Recommended For Part E)

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 Treated Wall
63	#
80	#
100	34
125	40
160	44
200	47
250	49
315	52
400	54
500	56
630	57
800	59
1000	61
1250	62
1600	63
2000	63
2500	60
3150	58
4000	#

# Indicates limitations of measurements
* Resonate Frequency - 37Hz



Reference: Fig. 3

Airborne Sound Test Results

Treated Wall
DnT,w = 58dB
DnT,w + Ctr = 51dB

DnT,w -This measurement type is used in Scottish Part E Building Regulations.

DnT,w + Ctr - This measurement type is used in England and Wales Part E Building Regulations.

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