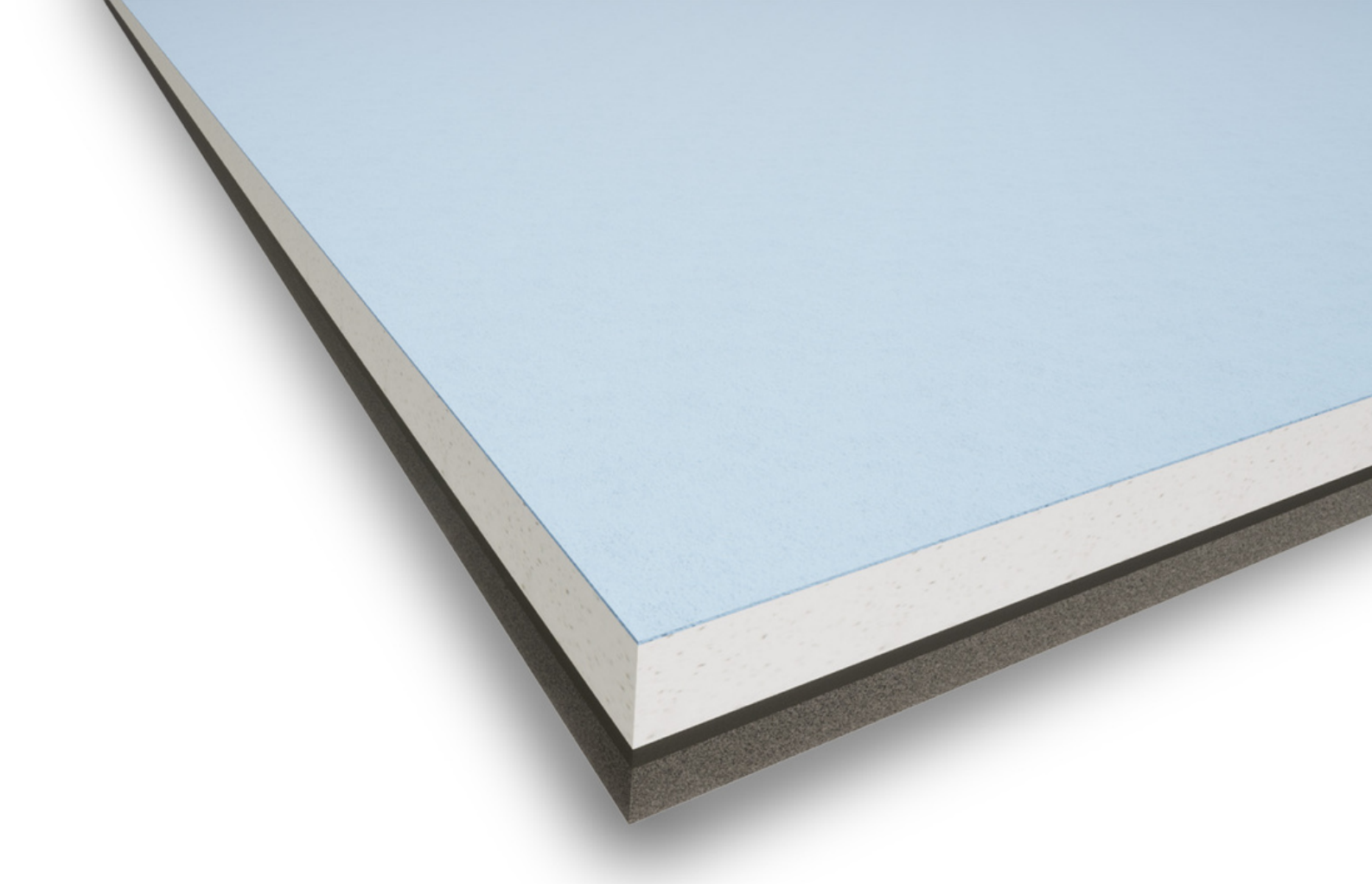


PROSOUND™

SoundBoard 3

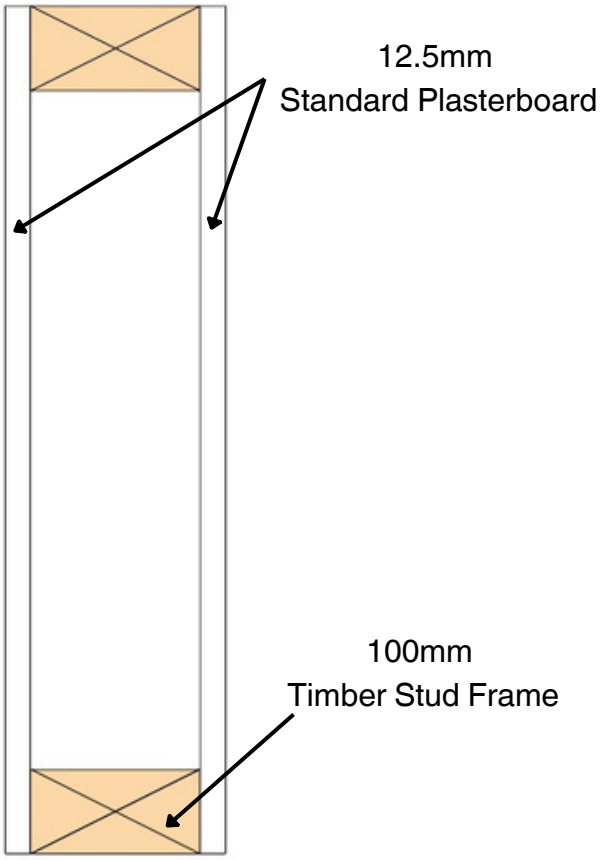
Wall Performance Data

the soundproofing store

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

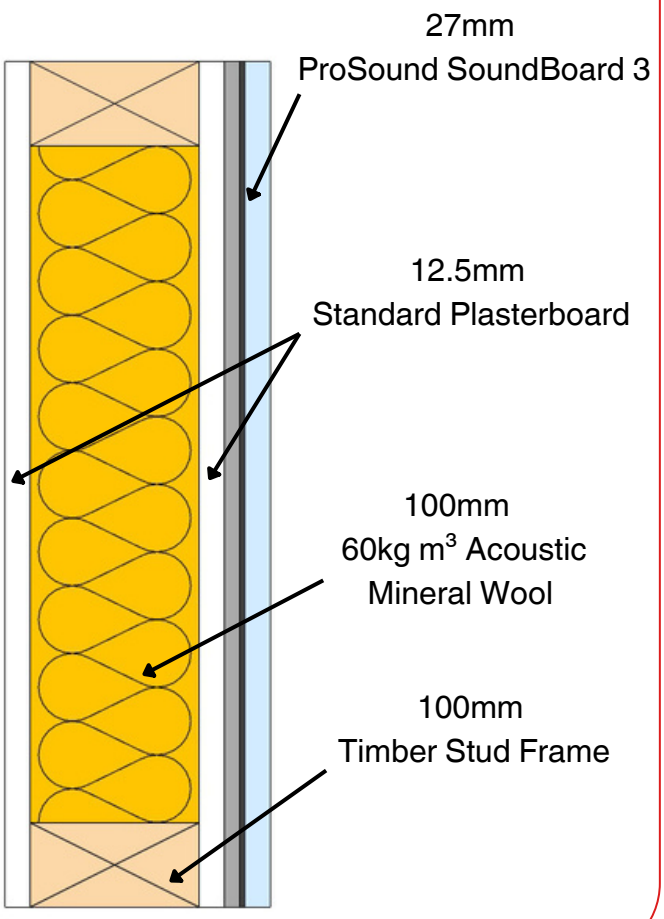
Stud Partition Wall: Build-up

Untreated Wall



Treated Wall

Fig.1

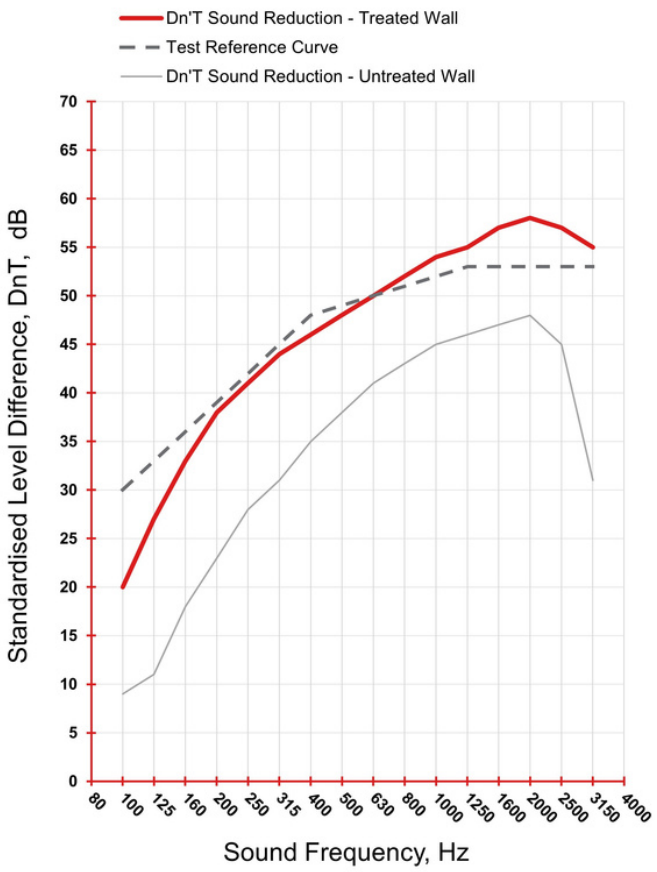


Structure Layers	Weight Per Sqm
12.5mm Standard Plasterboard	8.3Kg m^2
100mm Timber Stud Frame	N/A
100mm 60kg m^3 Acoustic Mineral Wool Filling Stud Frame	6Kg m^2
12.5mm Standard Plasterboard	8.3Kg m^2
27mm ProSound SoundBoard 3	21.5Kg m^2

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	20
125	11	27
160	18	33
200	23	38
250	28	41
315	31	44
400	35	46
500	38	48
630	41	50
800	43	52
1000	45	54
1250	46	55
1600	47	57
2000	48	58
2500	45	57
3150	31	55
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 65Hz

Reference: Fig. 1

Airborne Sound Test Results

Untreated Wall	Treated Wall	Wall Improvement
DnT,w = 35dB	DnT,w = 49dB	DnT,w = 14dB
DnT,w + Ctr = 26dB	DnT,w + Ctr = 38dB	DnT,w + Ctr = 12dB

Rating according to ISO 717-1

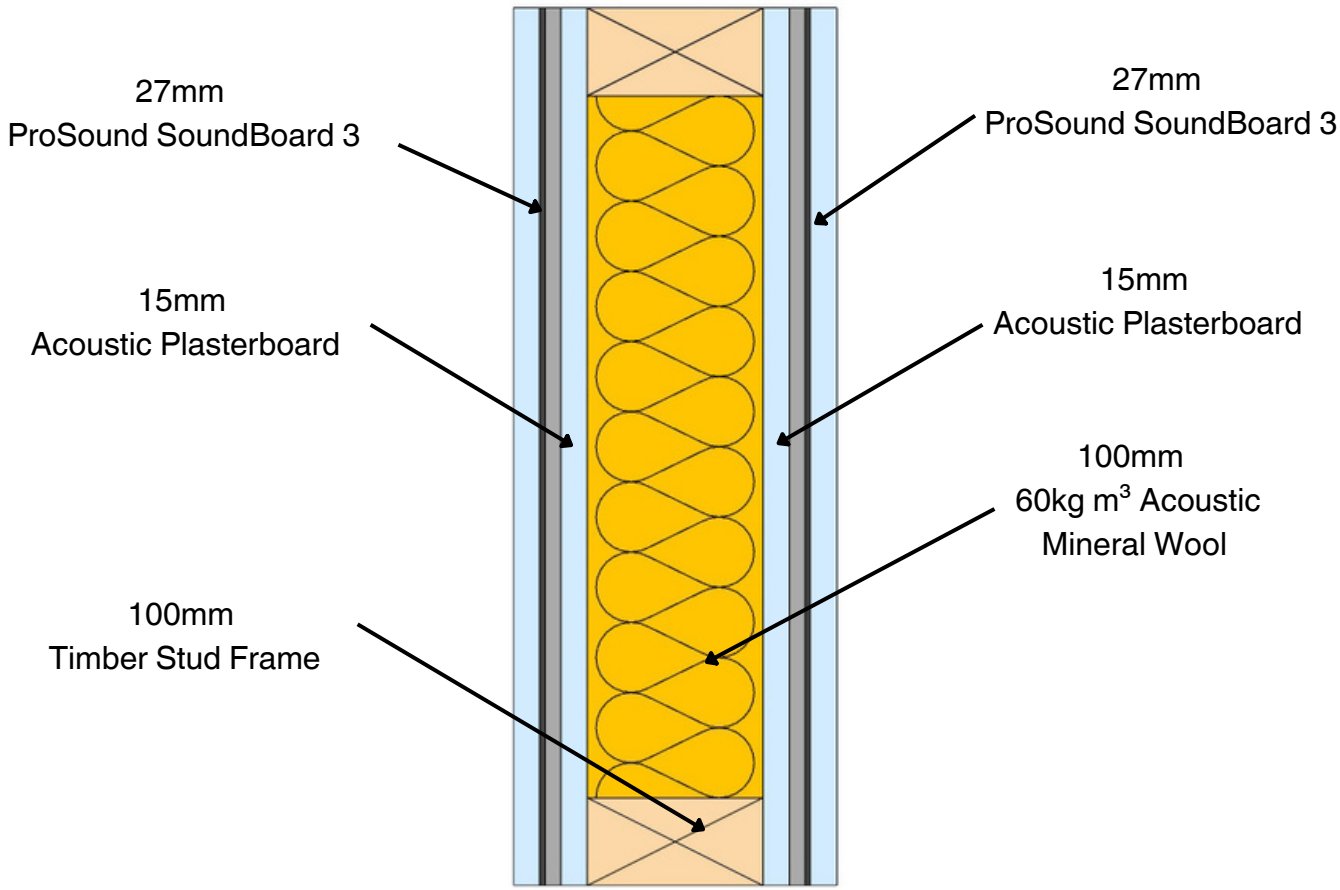
With airborne noise a higher value equals a better performance

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

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

Fig.2

Treated Wall



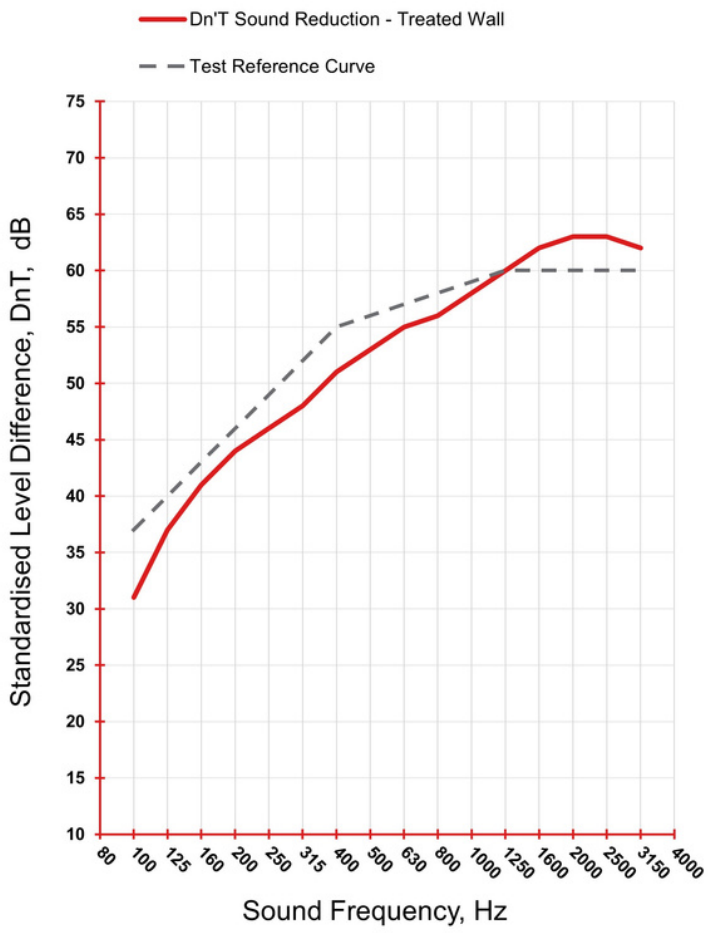
Structure Layers	Weight Per Sqm
27mm ProSound SoundBoard 3	21.5Kg m^2
15mm Acoustic Plasterboard	12.5Kg m^2
100mm Timber Stud Frame	N/A
100mm 60kg m^3 Acoustic Mineral Wool Filling Stud Frame	6Kg m^2
15mm Acoustic Plasterboard	12.5Kg m^2
27mm ProSound SoundBoard 3	21.5Kg m^2

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	31
125	37
160	41
200	44
250	46
315	48
400	51
500	53
630	55
800	56
1000	58
1250	60
1600	62
2000	63
2500	63
3150	62
4000	#

# Indicates limitations of measurements
* Resonate Frequency - 46Hz



Reference: Fig. 2

Airborne Sound Test Results

Treated Wall
DnT,w = 56dB
DnT,w + Ctr = 48dB

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