

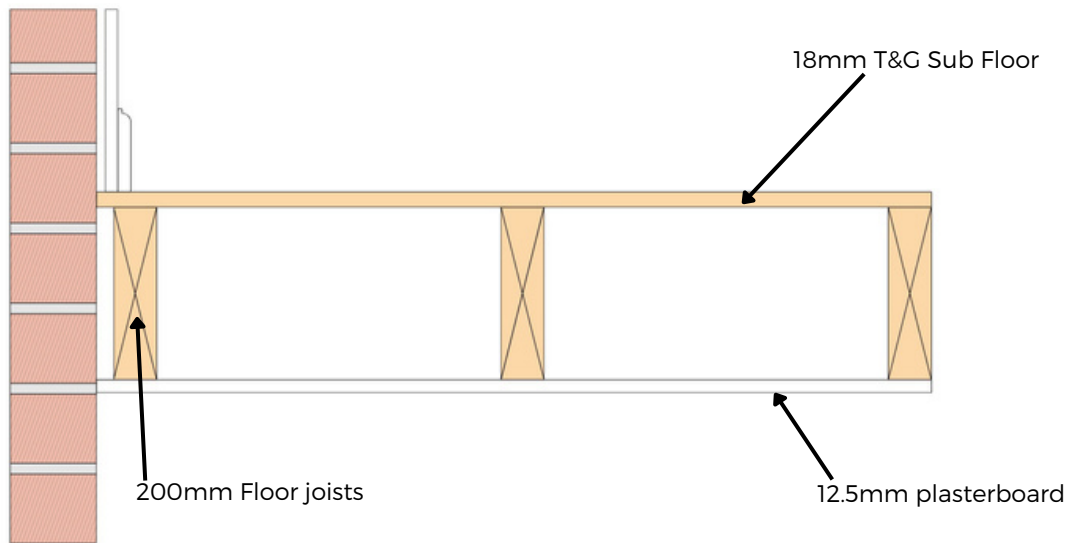
PRO)))SOUND™

SoundDeck 32

Floor Performance Data

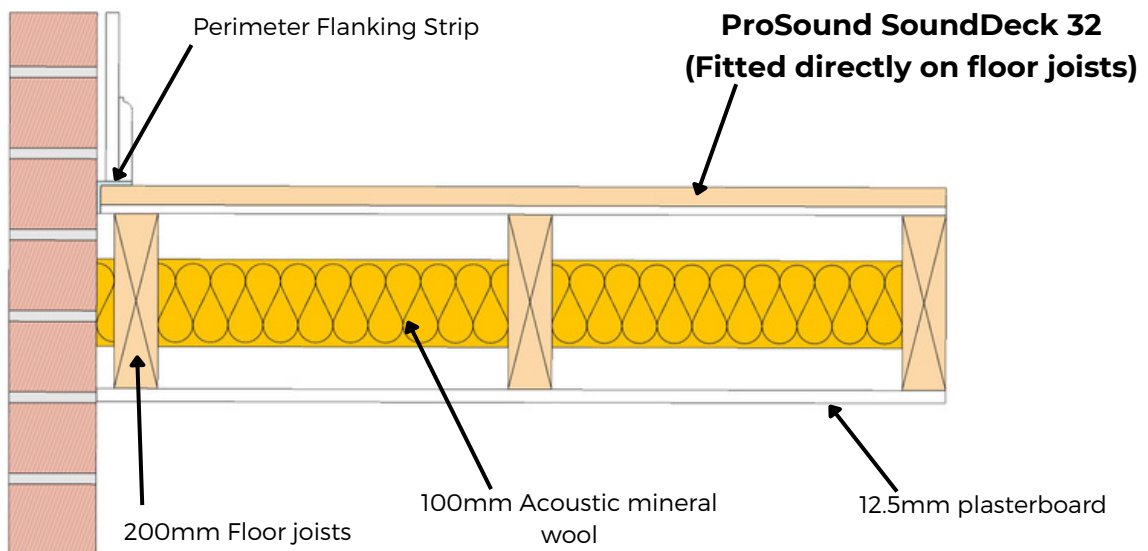
Timber Joisted Floor: Build-up

Untreated Floor



Treated Floor

Fig.1



Structure Layers	Weight Per Sqm
32mm SoundDeck 32	15Kg m ²
200mm Timber Floor Joists	N/A
100mm Acoustic Mineral Wool Fitted Between Floor Joists	6Kg m ²
12.5mm Plasterboard	9.3Kg m ²

Timber Joisted Floor: Airborne Test Data

Standardised airborne sound level difference according to BS EN ISO 140-4

Field measurement of airborne sound insulation between rooms

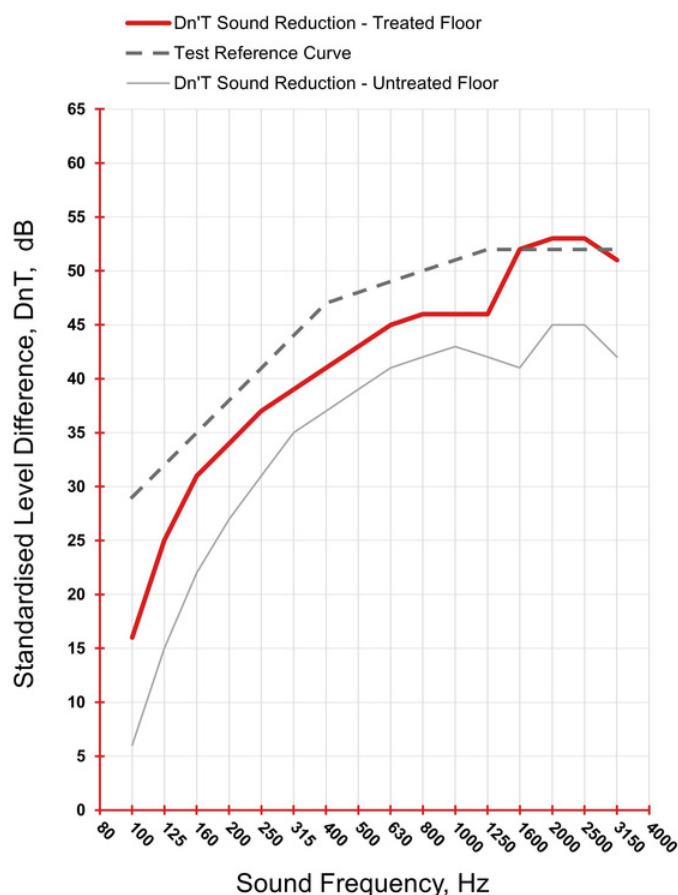
Source room volume - 47m³

Receiving room volume - 42m³

Frequency - Hz	DnT Value 1/3 Octave -dB Untreated Floor	DnT Value 1/3 Octave -dB Treated Floor
63	#	#
80	#	#
100	6	16
125	15	25
160	22	31
200	27	34
250	31	37
315	35	39
400	37	41
500	39	43
630	41	45
800	42	46
1000	43	46
1250	42	46
1600	41	52
2000	45	53
2500	45	53
3150	42	51
4000	#	#

Indicates limitations of measurements

* Resonate Frequency - 56Hz



Reference: Fig. 1

Airborne Sound Test Results

Untreated Floor	Treated Floor	Floor Improvement
DnT,w = 38dB	DnT,w = 45dB	DnT,w = 7dB
DnT,w + Ctr = 25dB	DnT,w + Ctr = 35dB	DnT,w + Ctr = 10dB

Rating according to ISO 717-1

With airborne noise a higher value equals a better performance

Timber Joisted Floor: Impact Test Data

Standardised impact sound pressure levels difference according to BS EN ISO 140-7

Field measurement of impact sound insulation of floors

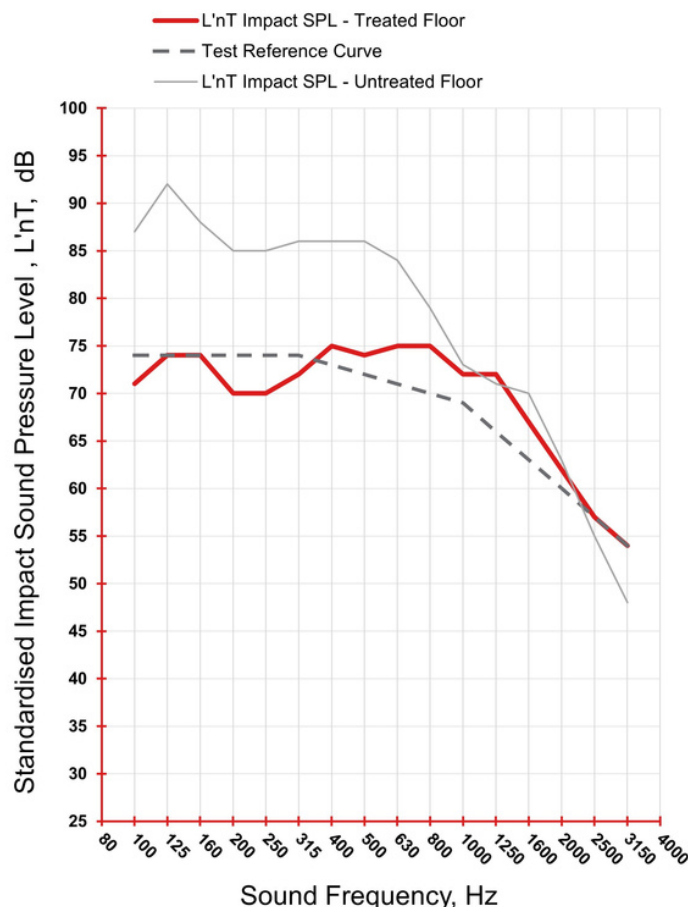
Source room volume - 47m³

Receiving room volume - 42m³

Frequency - Hz	L'nT Value 1/3 Octave -dB Untreated Floor	L'nT Value 1/3 Octave -dB Treated Floor
63	#	#
80	#	#
100	87	71
125	92	74
160	88	74
200	85	70
250	85	70
315	86	72
400	86	75
500	86	74
630	84	75
800	79	75
1000	73	72
1250	71	72
1600	70	67
2000	63	62
2500	55	57
3150	48	54
4000	#	#

Indicates limitations of measurements

* Resonate Frequency - 56Hz



Reference: Fig. 1

Impact Sound Test Results

Untreated Floor	Treated Floor	Floor Improvement
L'nT,w = 82dB	L'nT,w = 72dB	L'nT,w = 10dB

Rating according to ISO 717-2

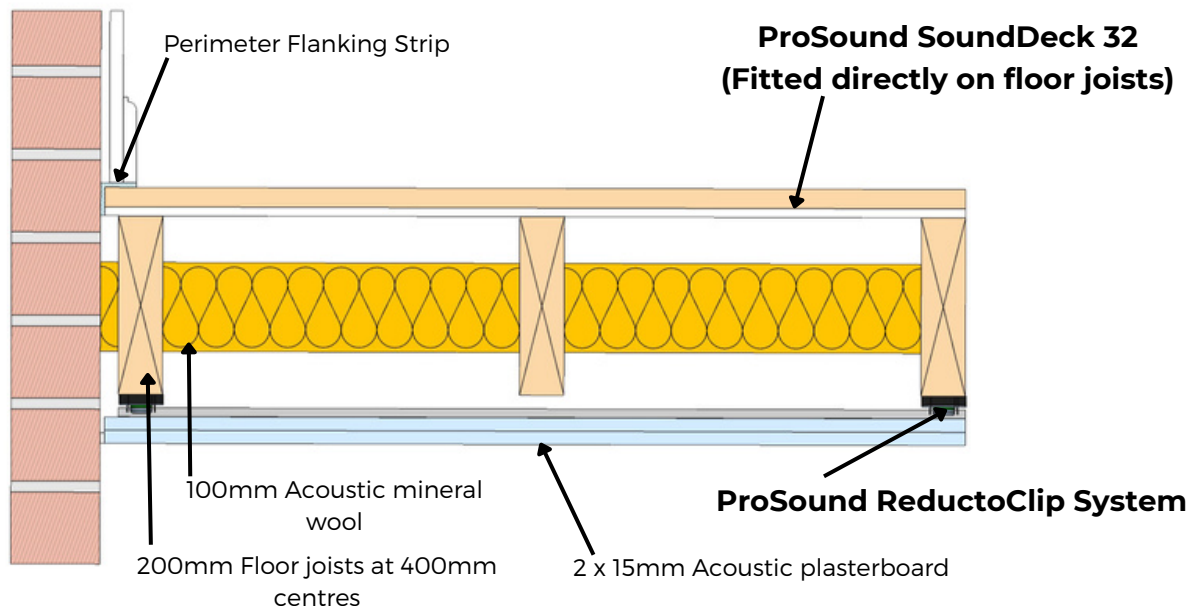
With impact noise a lower value equals a better performance

Timber Joisted Floor: Build-up (Recommended for Part E)

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

Treated Floor

Fig.2



Structure Layers	Weight Per Sqm
32mm SoundDeck 32	15Kg m ²
200mm Timber Floor Joists Filled with 100mm 60Kg m ³ Mineral Wool	6Kg m ²
25mm ReductoClip & Furring Bar	N/A
15mm Acoustic Plasterboard	12.8Kg m ²
15mm Acoustic Plasterboard	12.8Kg m ²

Timber Joisted Floor: Airborne 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

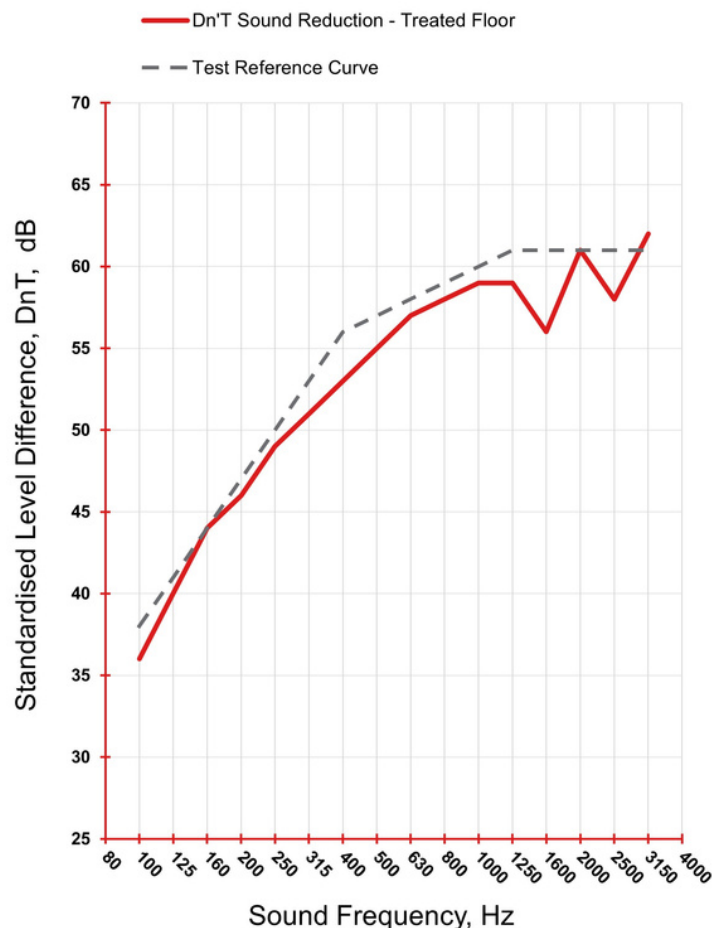
Source room volume - 47m³

Receiving room volume - 42m³

Frequency - Hz	DnT Value 1/3 Octave -dB Treated Floor
63	#
80	#
100	36
125	40
160	44
200	46
250	49
315	51
400	53
500	55
630	57
800	58
1000	59
1250	59
1600	56
2000	61
2500	58
3150	62
4000	#

Indicates limitations of measurements

* Resonate Frequency - 36Hz



Reference: Fig. 2

Airborne Sound Test Results

Treated Floor
DnT,w = 57dB
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

Timber Joisted Floor: Impact Test Data (Recommended For Part E)

Standardised impact sound pressure levels difference according to BS EN ISO 140-7

Field measurement of impact sound insulation of floors

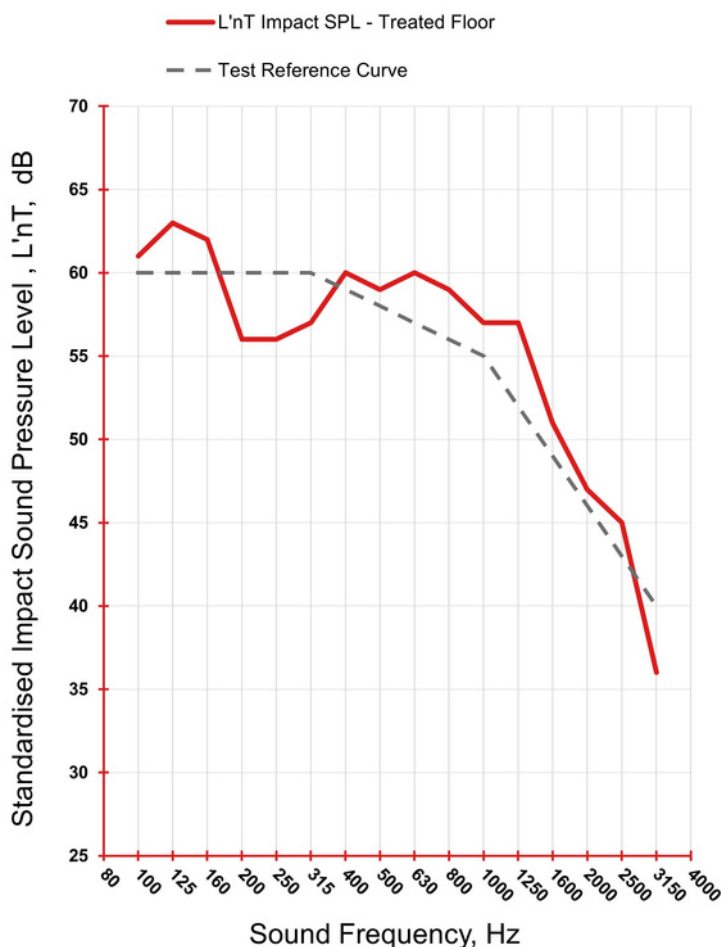
Source room volume - 47m³

Receiving room volume - 42m³

Frequency - Hz	L'nT Value 1/3 Octave -dB Treated Floor
63	#
80	#
100	61
125	63
160	62
200	56
250	56
315	57
400	60
500	59
630	60
800	59
1000	57
1250	57
1600	51
2000	47
2500	45
3150	36
4000	#

Indicates limitations of measurements

* Resonate Frequency - 36Hz



Reference: Fig. 2

Impact Sound Test Results

Treated Floor

L'nT,w = 58dB

Rating according to ISO 717-2

With impact noise a lower 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
Floors		
Separating floors between purpose built dwelling-houses and flats (i.e. New Build) & purpose built rooms for residential use.	(Higher than) 45dB	(Lower than) 62dB
Separating floors between dwelling-houses flats and residential rooms formed by a material change of use (i.e. conversions)	(Higher than) 43dB	(Lower than) 64dB

Part E Regulations For Scotland

Element of Construction	Airborne Sound DnT,w Minimum Value	Impact Sound L'nT,w Maximum Value
Floors		
Separating floors between dwelling-houses flats and rooms for residential purposes. New build and conversions	(Higher than) 56dB	(Lower than) 53dB
Separating floors between dwelling-houses flats and rooms for residential purposes. Conversion of traditional buildings	(Higher than) 53dB	(Lower than) 58dB

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.

L'nT,w - Weighted Standardised Field Impact Sound Pressure Level

The amount of impact noise transmitted through a floor structure, in field conditions, so includes flanking transmission.

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

Sound Tests

Sound tests are carried out by and independent testing company.

For airborne testing 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

For impact testing a tapping machine is placed on the floor which has a set of 5 steel hammers to produce impact noise on the separating floor. Level measurements are acquired in the receiving room at 2 microphone positions, at one third octave band intervals from 100 to 3150 Hertz using an average time of at least 6 seconds for each of 4 tapping machine positions, creating 8 individual measurement readings.

The procedure is repeated in different positions.

The results of the tests are rated in accordance with BS EN ISO 717-2: 1997