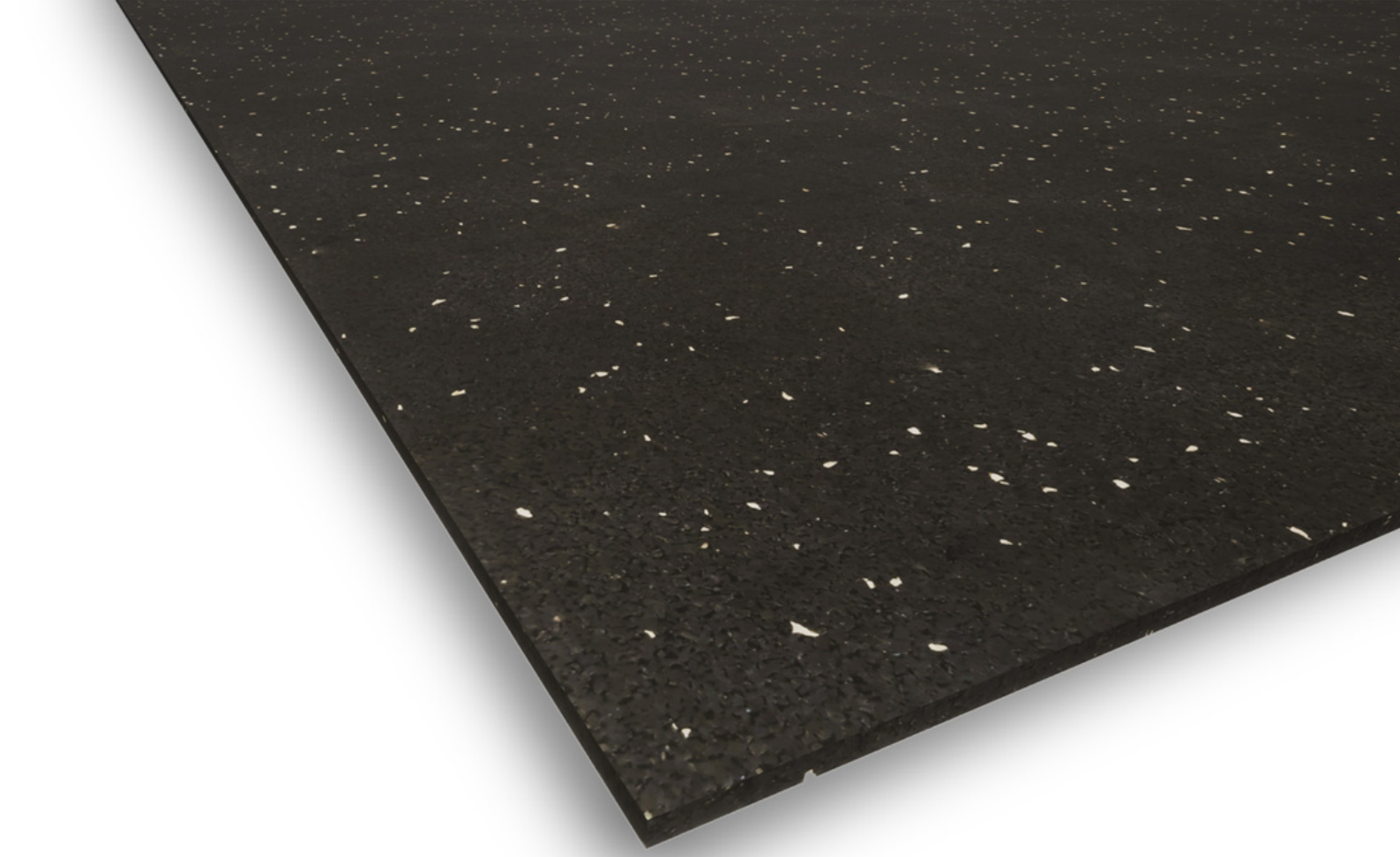


PRO SOUND™

ImpactoMat 5

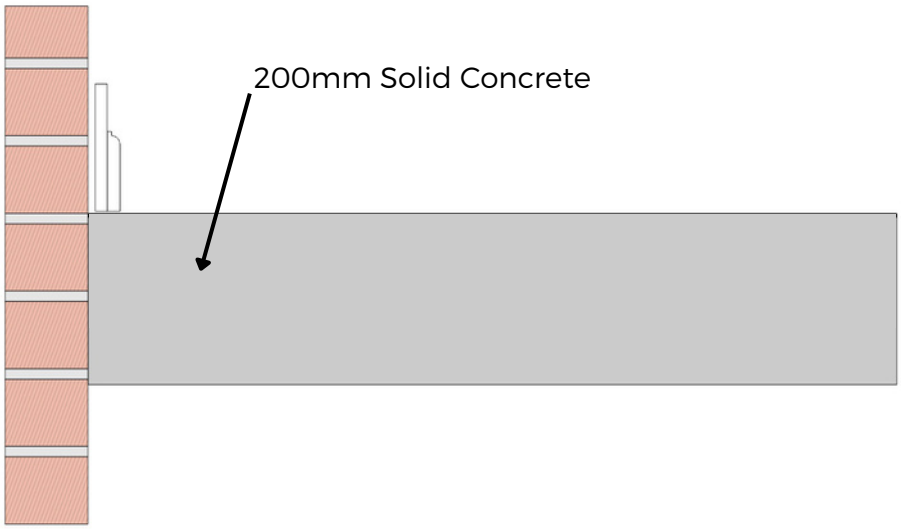
Floor Performance Data

the soundproofing store

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

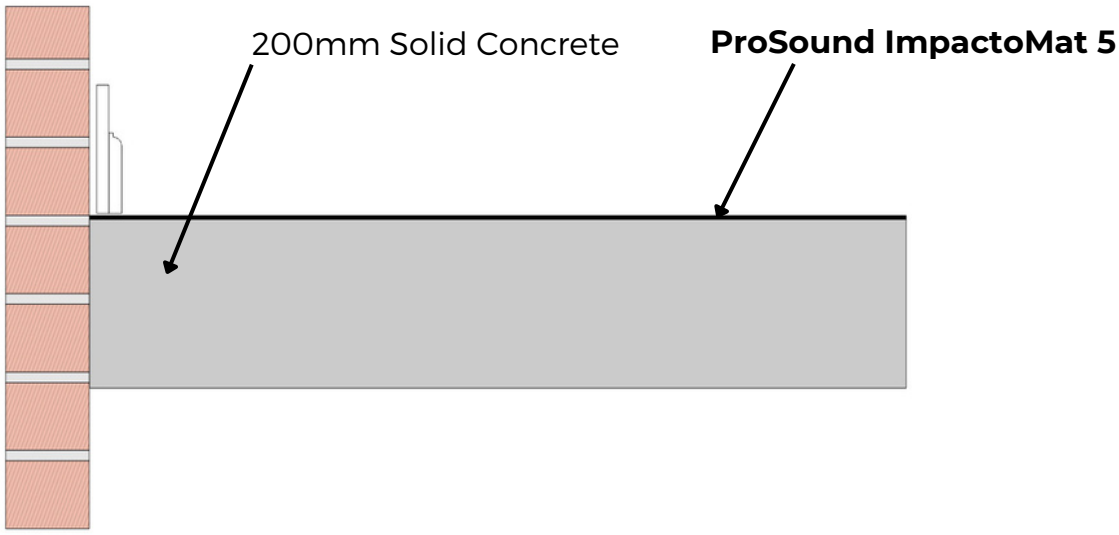
Concrete Floor: Build-up

Untreated Floor



Treated Floor

Fig.1

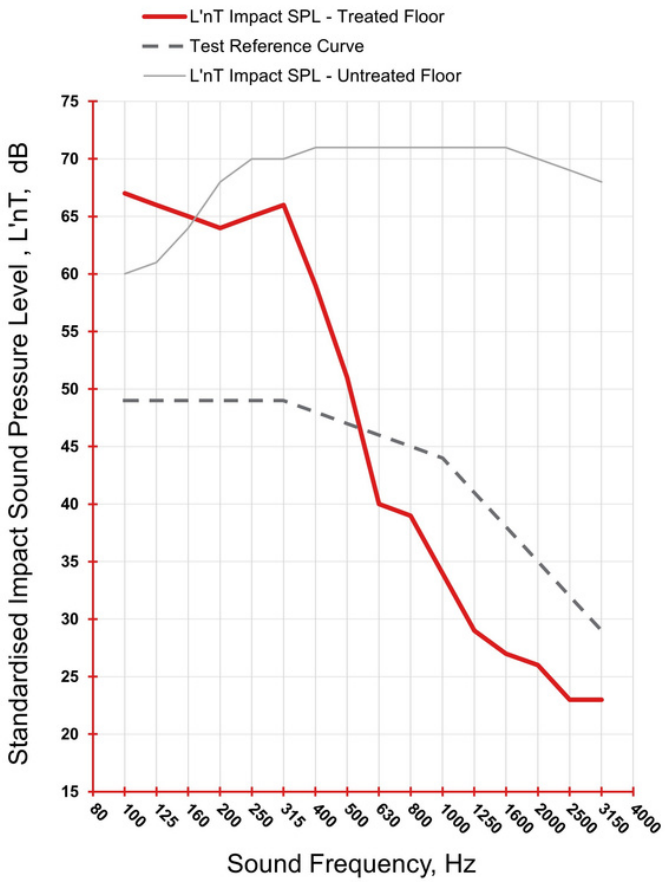


Structure Layers	Weight Per Sqm
5mm ImpactoMat 5	4Kg m^2
200mm Solid Concrete	490Kg m^2

Concrete 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 - 62m^3
Receiving room volume - 51m^3

Frequency - Hz	L'nT Value 1/3 Octave -dB Untreated Floor	L'nT Value 1/3 Octave -dB Treated Floor
63	#	#
80	#	#
100	60	67
125	61	66
160	64	65
200	68	64
250	70	65
315	70	66
400	71	59
500	71	51
630	71	40
800	71	39
1000	71	34
1250	71	29
1600	71	27
2000	70	26
2500	69	23
3150	68	23
4000	#	#



# Indicates limitations of measurements
* Resonate Frequency - 42Hz

Reference: Fig. 3

Impact Sound Test Results

Untreated Floor	Treated Floor	Floor Improvement
L'nT,w = 76dB	L'nT,w = 55dB	L'nT,w = 21dB

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