

# GYM FLOORING

ACOUSTIC TECHNICAL SPECIFICATION

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Gym Acoustic Sub Floor System





## Recycled Rubber Gym Flooring

InstaFloor provide a high-performance range of rubber flooring products which are suitable for weightlifting areas, commercial gyms, strength and conditioning facilities and fitness studios.

All InstaFloor rubber gym flooring is made from recycled rubber from used vehicle tyres, preventing these materials going into landfill and creating a fully recyclable product which is kind to the environment.

By specifying InstaFloor recycled rubber gym flooring for your project you are helping to recycle truck tyres that would normally go to landfill. Working together we can reduce waste and support the sustainable management of our environment.

## Recycled Tyre Calculation

### Truck Tyre

100% Recovery of rubber

Rubber content of tyre = 70%

Tyre weight = 62kg x 70% = 43.4 kg (rubber)

92% weight of gym tile is rubber crumb = 31.28 kg

$43.4 / 31.28 = 1.39$  tiles recycles 1 tyre

$500\text{m}^2 = 360$  tyres recycled\*

\*Calculation based on 40mm Tile

$500\text{m}^2$   
360 Recycled Tyres





## Rubber Flooring Technology

Importance of using high quality rubber gym flooring:

- Reduce impact noise and vibration from gym equipment
- Prevent impact sound transferring into the building structure and causing noise complaints
- Create a safe exercise platform for users that reduces fatigue and injuries
- Healthy antimicrobial flooring surface
- Provide a durable layer to prevent damage to sub floor from free weights
- Provides high level of shock absorption
- Enhance the aesthetics of the internal space used for exercise

### Product Range

SBR Recycled Rubber

Bevelled edge (tile product only)

Uniform colour consistency

Colour options: Black + 15% EDPM Coloured Flecks

Tile Products

GT15: 15mm x 1000mm x 1000mm

GT25: 25mm x 1000mm x 1000mm

GT40: 40mm x 1000mm x 1000mm

GT45: 45mm x 1000mm x 1000mm

Roll Products

GR10: 10mm x 1,250mm x 10,000mm



# High Density Acoustic Sprung Gym Flooring

## System Components:

### Cradles:

Dimensions: 25mm leg -20mm base / 40mm leg -20mm base

Material: Recycled rubber crumb with 60 year guarantee

Cradle centres (along support battens): 300mm

### Support Battens:

Dimensions: 25 x 43 x 1800mm / 43mm x 43mm x 1800mm

Batten centres: 300mm / 400mm

### Overlay Boards:

18mm Plywood (TG4) or 18mm-36mm cement boards (TG4)

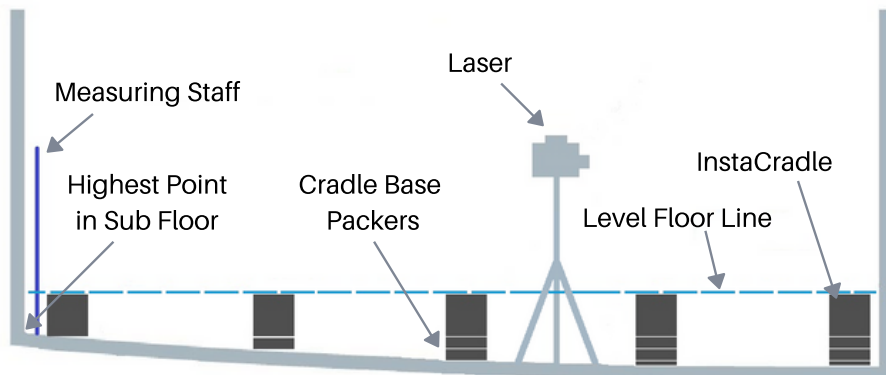
### Accessories:

Interlocking cradle packers: 2mm / 5mm

Interlocking cradle base packers: 10mm / 30mm

IN10 Acoustic insulation

## Levelling Capability



### Levelling:

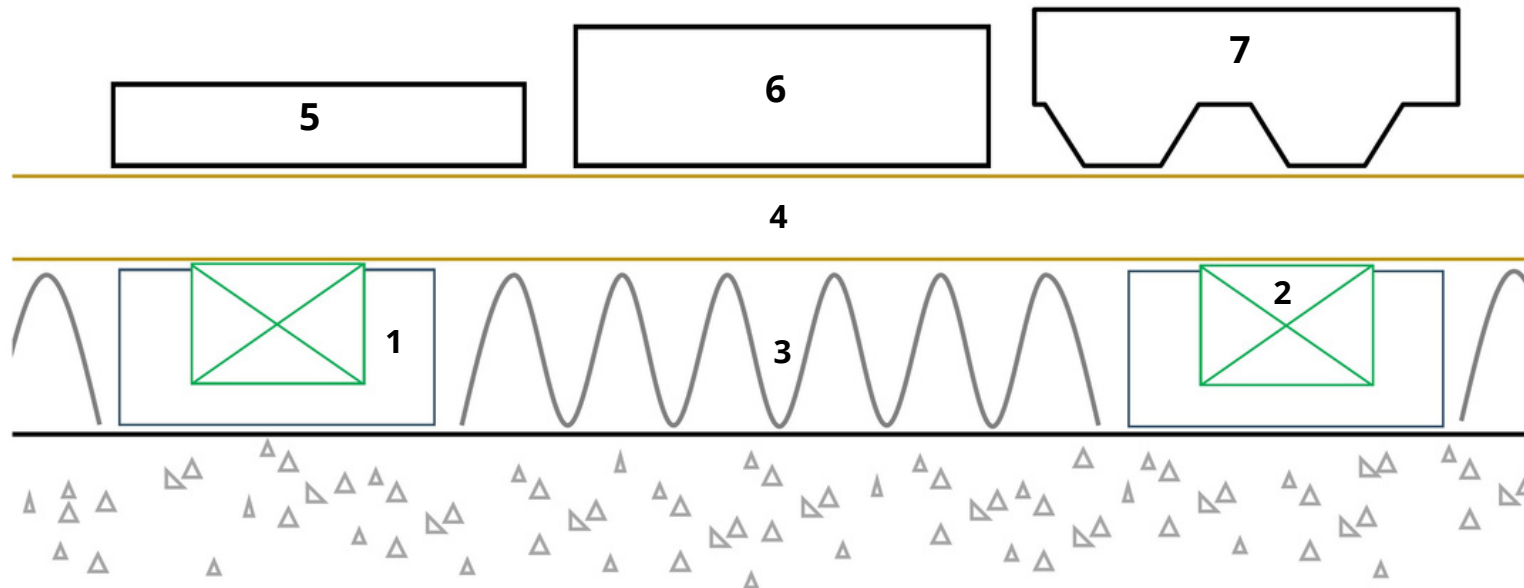
InstaCradle sub floor provides a levelling system which can be adjusted to level even the most uneven structural floors. This levelling capability can also be used between different floor makeups to create a flush threshold.

# Acoustic Cradle Sub Floor

## InstaCradle C30 System

- 1 - InstaCradle (Recycled Rubber)
- 2 - Cradle Batten (FSC)
- 3 - IN10 Acoustic Insulation
- 4 - 18mm OSB/Plywood Board (T&G)

- 5 - GT25mm (Rubber Gym Tile)
- 6 - GT40mm (Rubber Gym Tile)
- 7 - GT45mm (Profile Backed Rubber Gym Tile)



# Acoustic Performance

## InstaCradle Acoustic Sub Floor + GT25 Gym Tile (25mm x 1000mm x 1000mm)

Improvement in impact sound insulation measured according to BS EN ISO 10140-3 : 2010

Rating according to BS EN ISO 717-2:2013

Weighted reduction of impact sound pressure level of sample and (spectrum adaptation term)

**ΔLw (Cld) = 33 (-13) dB**

Weighted normalised impact sound pressure level of bare reference floor and (spectrum adaptation term)

**Ln,r,0,w (Cl,r,0) = 78 (-11) dB**

Weighted normalised impact sound pressure level of reference floor with sample and (spectrum adaptation term)

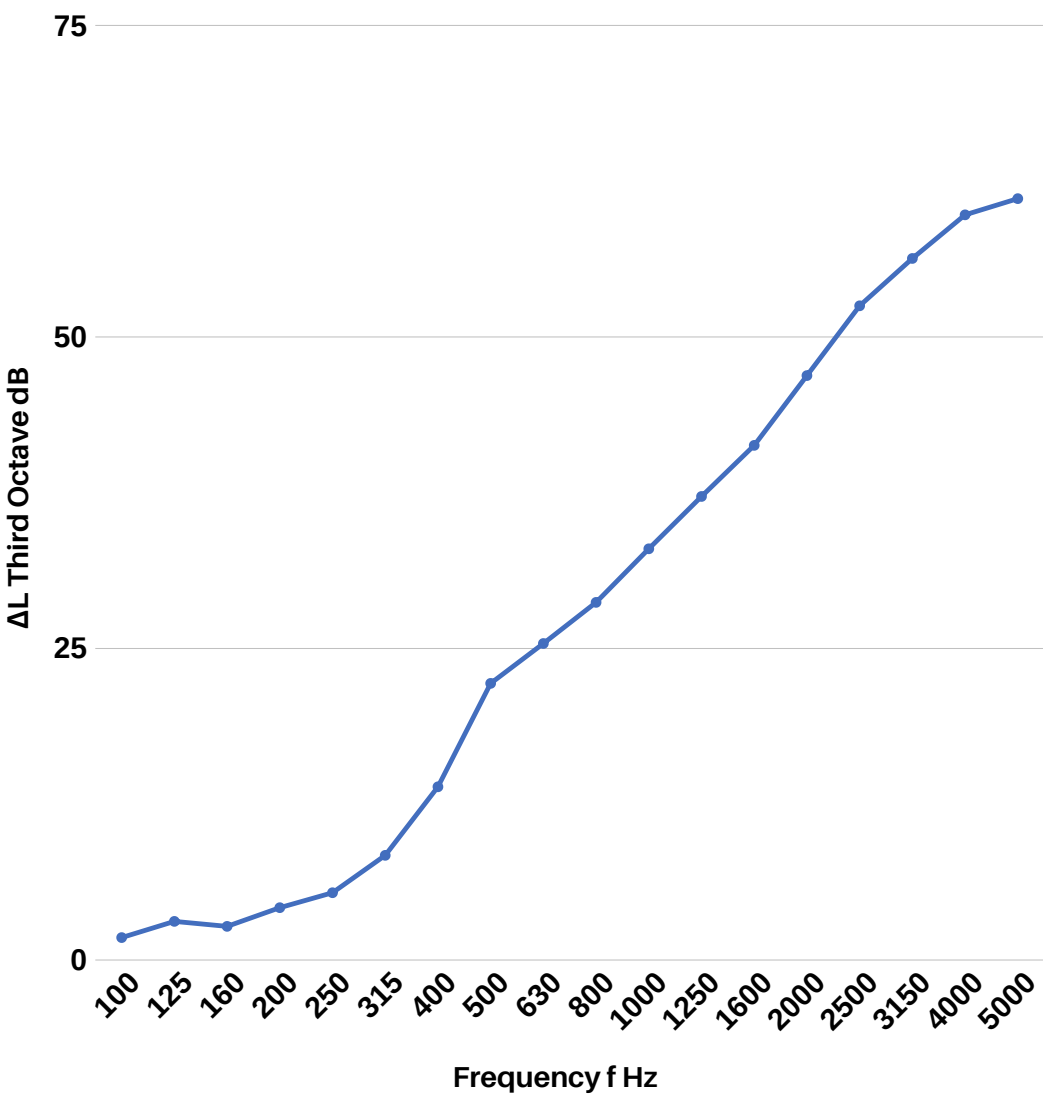
**Ln,r,w (Cl,r) = 45 (2) dB**

Test Floor 160mm concrete with no drop ceiling

\*Denotes results corrected for background

#Denotes results at background

Freq f Hz	Ln,0 Third Octave dB	ΔL Third Octave dB
100	66.0	6.6
125	67.5	11.3
160	69.6	17.1
200	69.2	19.7
250	70.3	24.1
315	70.7	28.6
400	71.5	36.4
500	71.8	44.0
630	72.7	50.2
800	72.7	57.4*
1000	73.5	61.1*
1250	74.5	62.8*
1600	76.1	63.8*
2000	76.6	64.9*
2500	77.2	66.2*
3150	77.4	65.2*
4000	76.2	66.7#
5000	73.6	64.1#



# Acoustic Performance

## InstaCradle Acoustic Sub Floor +GT40 Gym Tile (40mm x 1000mm x 1000mm)

Improvement in impact sound insulation measured according to BS EN ISO 10140-3 : 2010

Rating according to BS EN ISO 717-2:2013

Weighted reduction of impact sound pressure level of sample and (spectrum adaptation term)  
**ΔLw (Cld) = 33 (-13) dB**

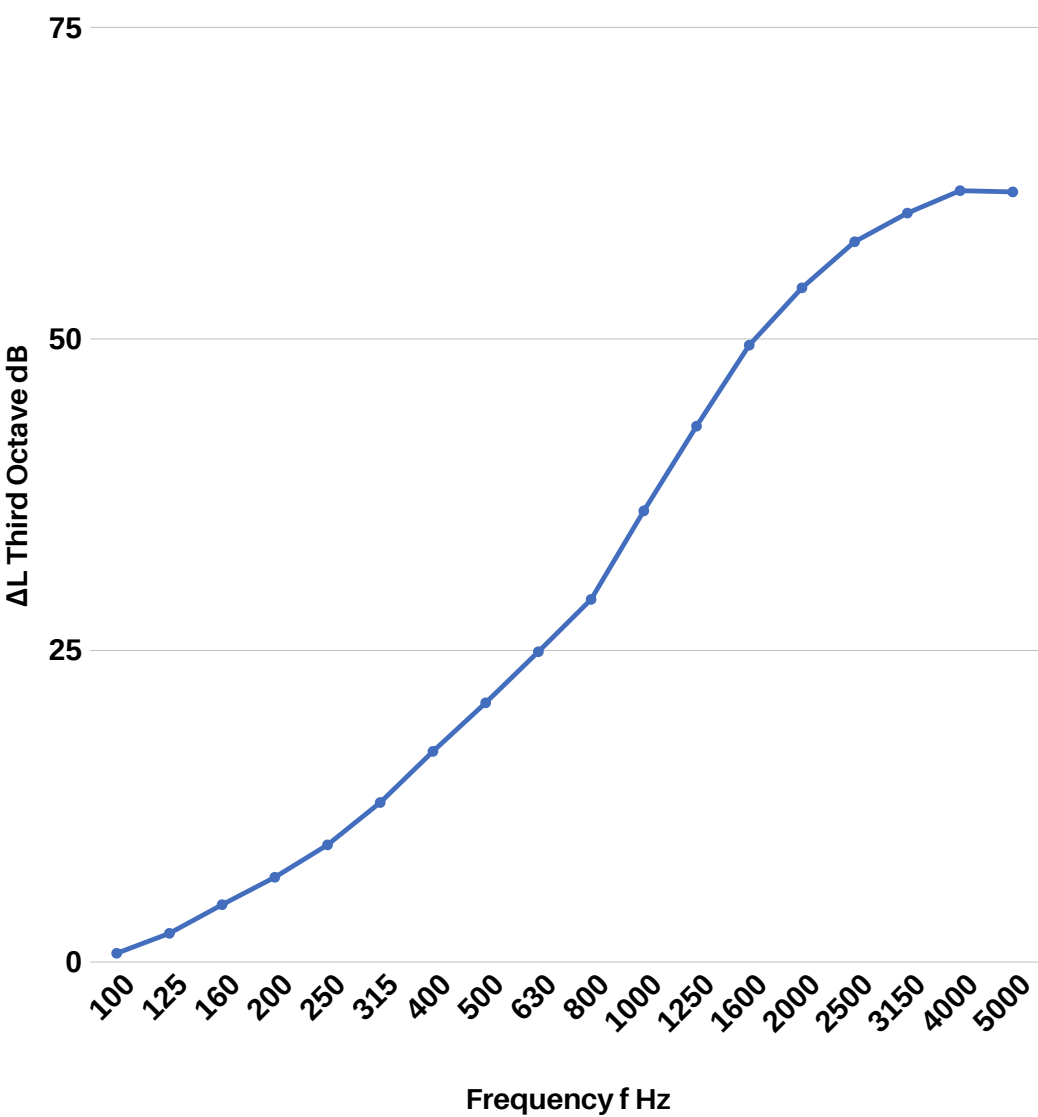
Weighted normalised impact sound pressure level of bare reference floor and (spectrum adaptation term)  
**Ln,r,0,w (Cl,r,0) = 78 (-11) dB**

Weighted normalised impact sound pressure level of reference floor with sample and (spectrum adaptation term)  
**Ln,r,w (Cl,r) = 45 (2) dB**

Test Floor 160mm concrete with no drop ceiling

\*Denotes results corrected for background  
#Denotes results at background

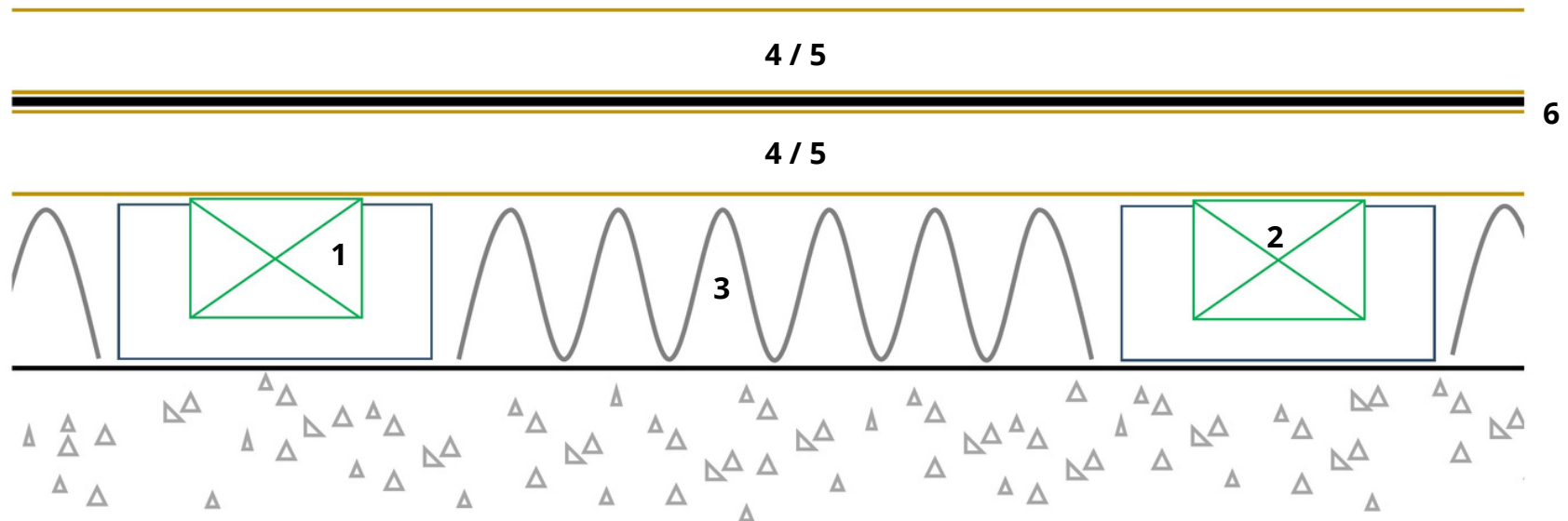
Freq f Hz	Ln,0 Third Octave dB	ΔL Third Octave dB
100	66.0	7.9
125	67.5	12.0
160	69.6	15.4
200	69.2	18.6
250	70.3	24.4
315	70.7	30.3
400	71.5	37.7
500	71.8	43.9
630	72.7	50.2
800	72.7	57.1*
1000	73.5	62.4*
1250	74.5	65.2*
1600	76.1	65.0*
2000	76.6	65.9*
2500	77.2	67.1*
3150	77.4	65.8*
4000	76.2	67.1#
5000	73.6	64.0#



## InstaCradle C30-2 System

- 1 - InstaCradle (Recycled Rubber)
- 2 - Cradle Batten (FSC)
- 3 - IN10 Acoustic Insulation

- 4 - 18mm OSB/Plywood Board (T&G) / Density approx 600 kg/m<sup>3</sup>
- 5 - 18mm Cement Board / Density approx 1,100 kg/m<sup>3</sup>
- 6 - 6mm Rubber Shock Pad / Density approx 370 kg/m<sup>3</sup>





# Acoustic Performance

**InstaCradle Acoustic Sub Floor**  
**Ref - C30-2 (2 x layers 18mm Plywood/OSB**  
**+ SP06 Rubber Shockpad)**

Impact sound insulation measured according to BS EN ISO 10140-7 : 2010

Rating according to BS EN ISO 717-2:1996

Combined weighted, standard plus spectrum adaption term (measures the impact sound insulation performance of floor and ceiling system)

**LnT,w + CI = 48 dB**

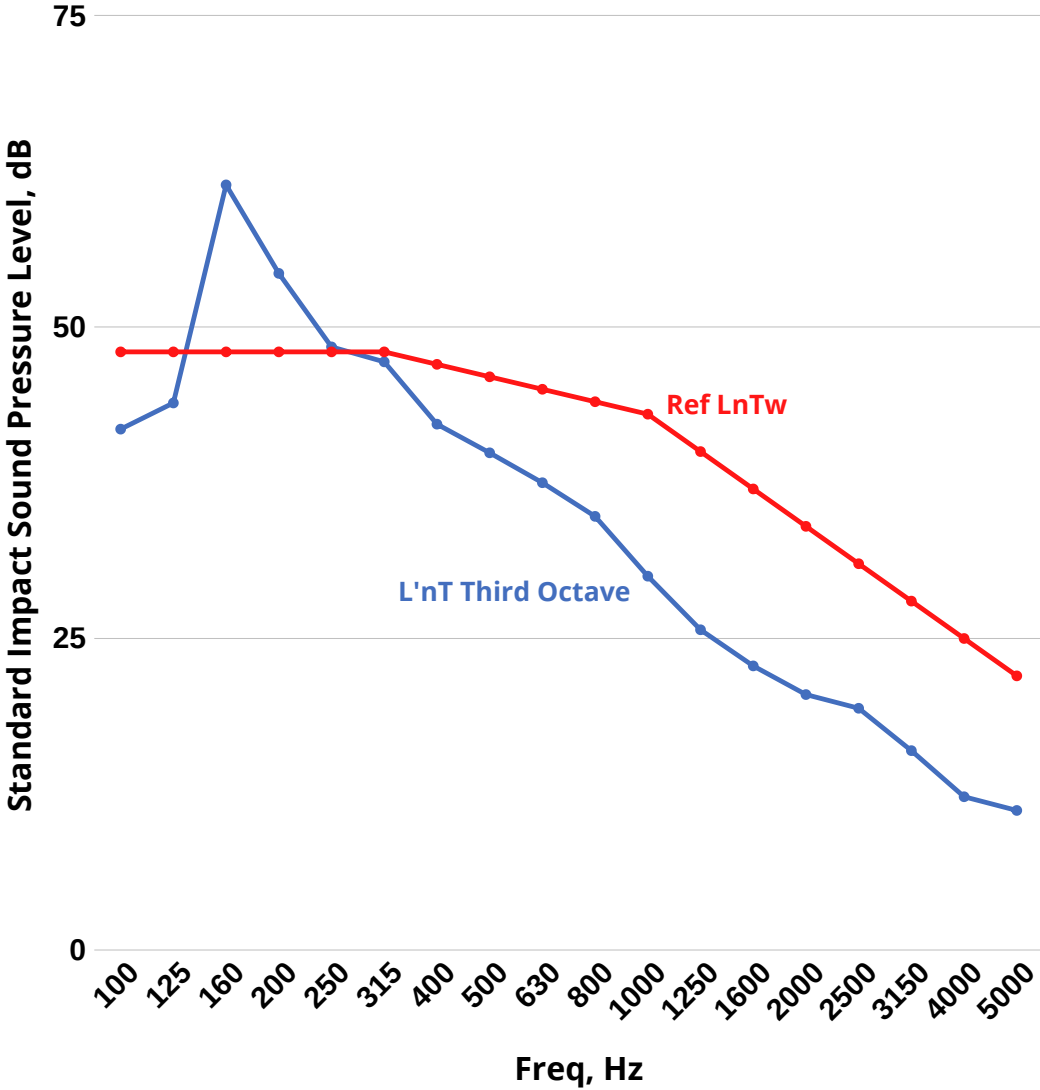
Test Floor 150mm concrete with type 1 ceiling

Field Impact Insulation Class (FIIC)  
ASTM E 1007-97 and ASTM E 989-89

**FIIC 54dB**

**Natural Frequency: 30 Hz**

Freq f Hz	L'nT Third Octave dB	Ref LnTw
100	41.8	48
125	43.9	48
160	61.4	48
200	54.3	48
250	48.4	48
315	47.2	48
400	42.2	47
500	39.9	46
630	37.5	45
800	34.8	44
1000	30.0	43
1250	25.7	40
1600	22.8	37
2000	20.5	34
2500	19.4	31
3150	16.0	28
4000	12.3	25
5000	11.2	22
LnTw		46
CI		1.7
LnT,w+CI		48



# Acoustic Performance

**InstaCradle Acoustic Sub Floor**  
**Ref - C30-2 (2 x layers 18mm Cement Board**  
**+ SP06 Rubber Shockpad)**

Impact sound insulation measured according to BS EN ISO 10140-7 : 2010

Rating according to BS EN ISO 717-2:1996

Combined weighted, standard plus spectrum adaption term (measures the impact sound insulation performance of floor and ceiling system)

**LnT,w + CI = 44 dB**

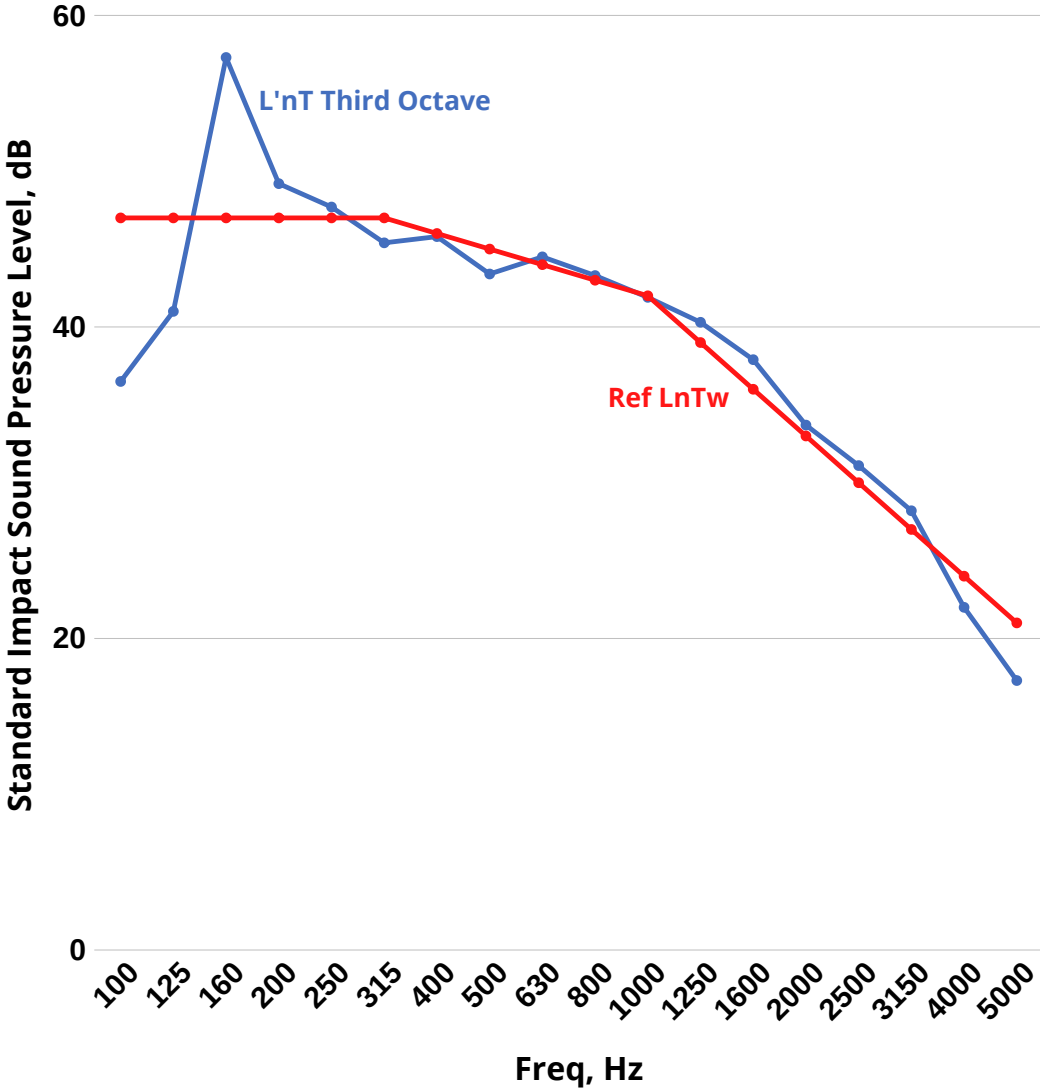
Test Floor 150mm concrete with type 1 ceiling

Field Impact Insulation Class (FIIC)  
ASTM E 1007-97 and ASTM E 989-89

**FIIC 59dB**

**Natural Frequency: 20 Hz**

Freq f Hz	L'nT Third Octave dB	Ref LnTw
100	36.5	47
125	41.0	47
160	57.3	47
200	49.2	47
250	47.7	47
315	45.4	47
400	45.8	46
500	43.4	45
630	44.5	44
800	43.3	43
1000	41.9	42
1250	40.3	39
1600	37.9	36
2000	33.7	33
2500	31.1	30
3150	28.2	27
4000	22.0	24
5000	17.3	21
LnTw		45
CI		-0.6
LnT,w+CI		44







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