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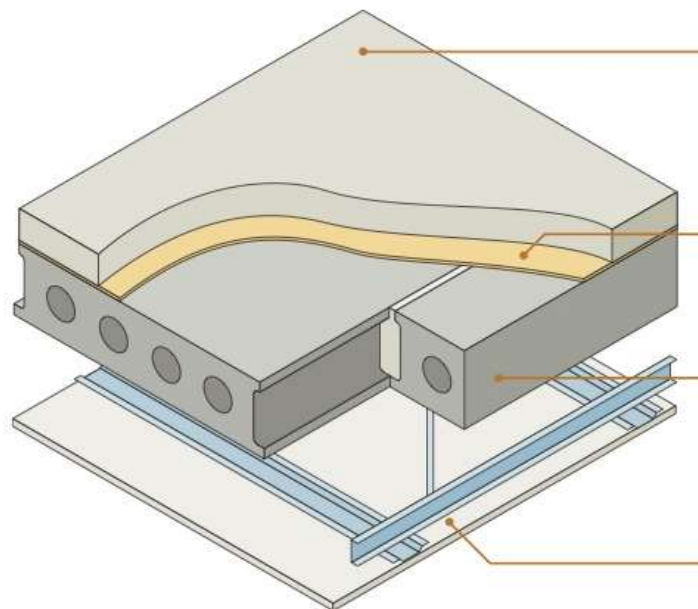
# Noise Demonstration

**ANC Conference 2016**

## Separating Floor – Concrete

## E-FC-5

- Precast concrete plank ■
- Screed laid on *Collecta*® *YELOfon*® HD10+ resilient layer system ■



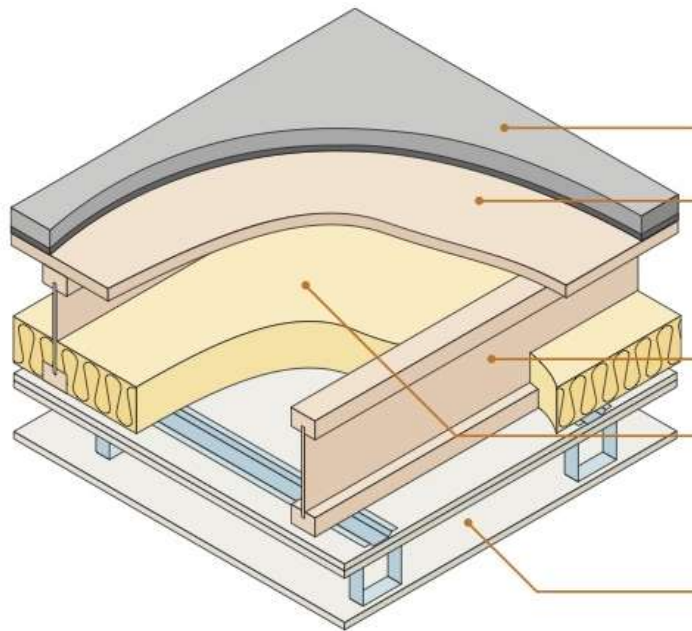
Sketch shows CT0 type ceiling treatment

<b>Screed</b>	65mm (min) cement:sand or 40mm (min) proprietary screed of nominal 80 kg/m <sup>2</sup> mass per unit area
<b>Resilient layer</b>	<b>YELOfon</b> ® HD10+ with <b>E-strip</b> perimeter edging and <b>J-strip</b> tape for jointing
<b>Structural floor</b>	Precast concrete plank of 150mm (min) thickness and 300 kg/m <sup>2</sup> (min) mass per unit area
<b>Ceiling</b>	See section 3 for suitable ceiling treatment which is dependent on floor plank depth and block type used in supporting walls

## Separating Floor – Timber I-Joists

## E-FT-5

- Cellecta ScreedBoard® 28 on timber sub-floor ■
- Timber I-Joists ■
- Use with timber frame walls only ■



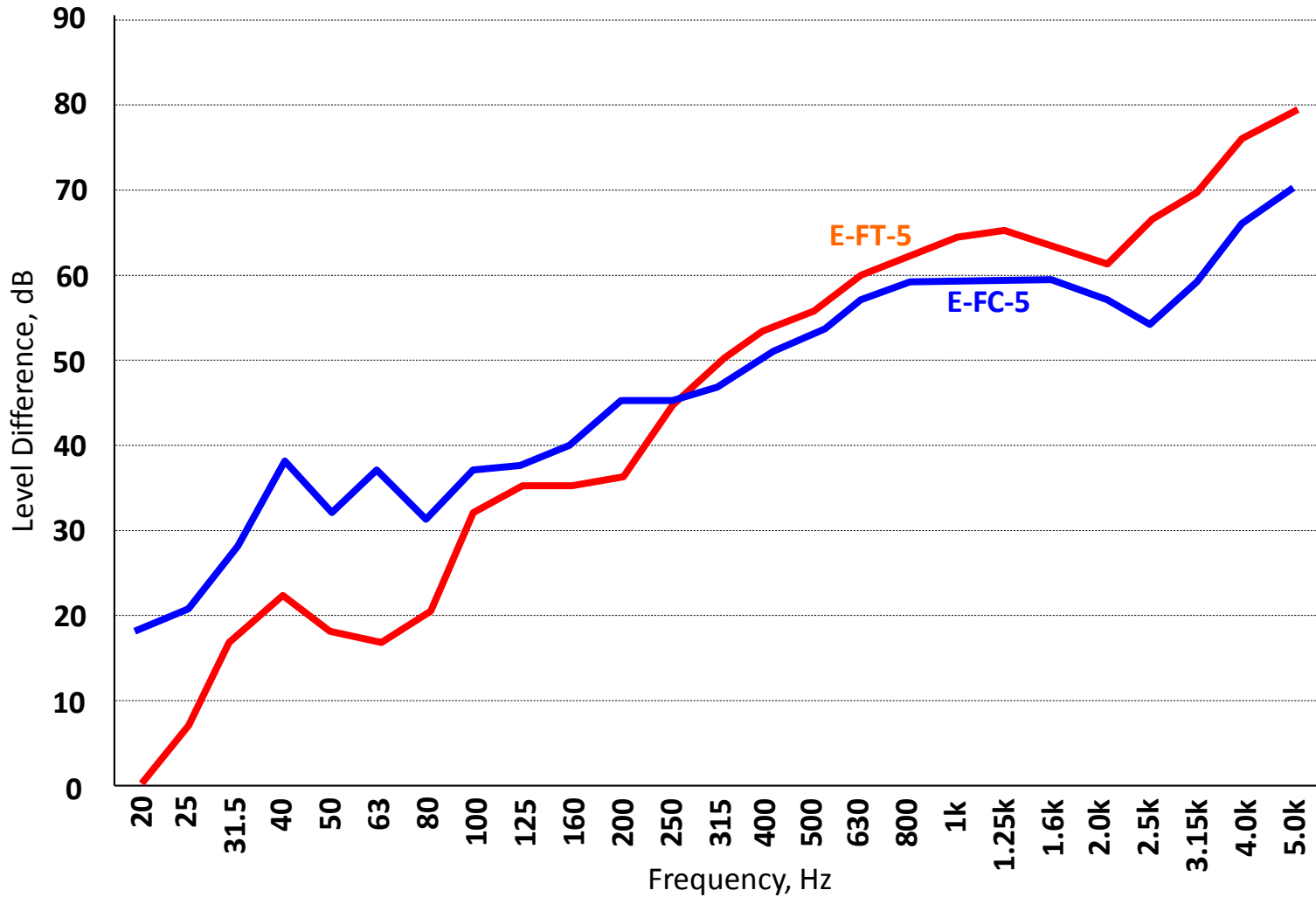
<b>Floating floor</b>	Cellecta ScreedBoard® 28
<b>Floor decking</b>	18mm thick (min) wood based board, density 600 kg/m <sup>3</sup> (min)
<b>Joists</b>	240mm (min) timber I-joist
<b>Absorbent material</b>	100mm (min) mineral wool quilt insulation (10–36 kg/m <sup>3</sup> ) between joists
<b>Ceiling</b>	See section 5 for ceiling treatment



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Measured Level Difference, dB





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# CDM Tamborine Studios, Newman Street



**AKRILIK**

**BANGARANG**



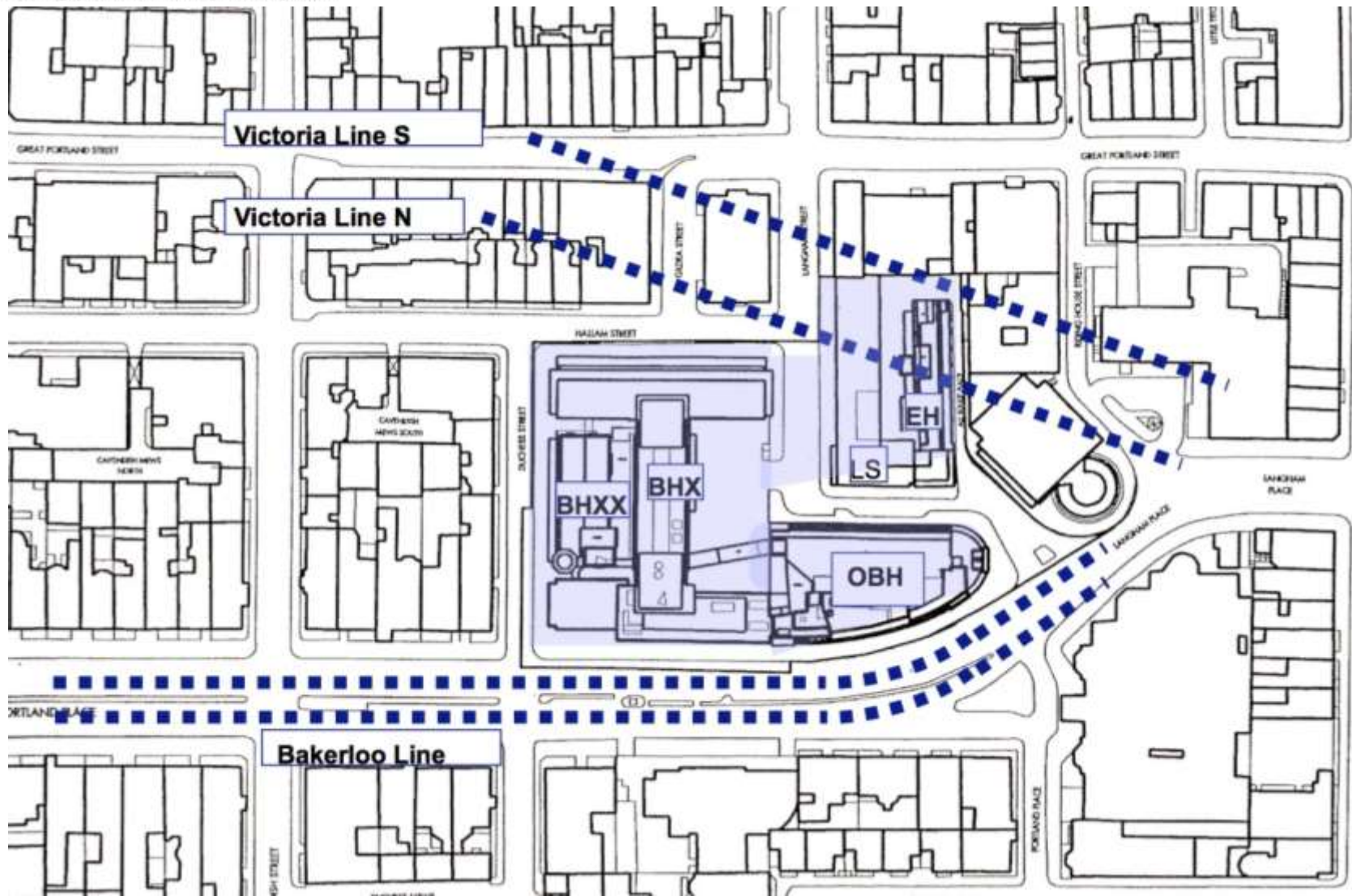
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BBC Broadcasting House



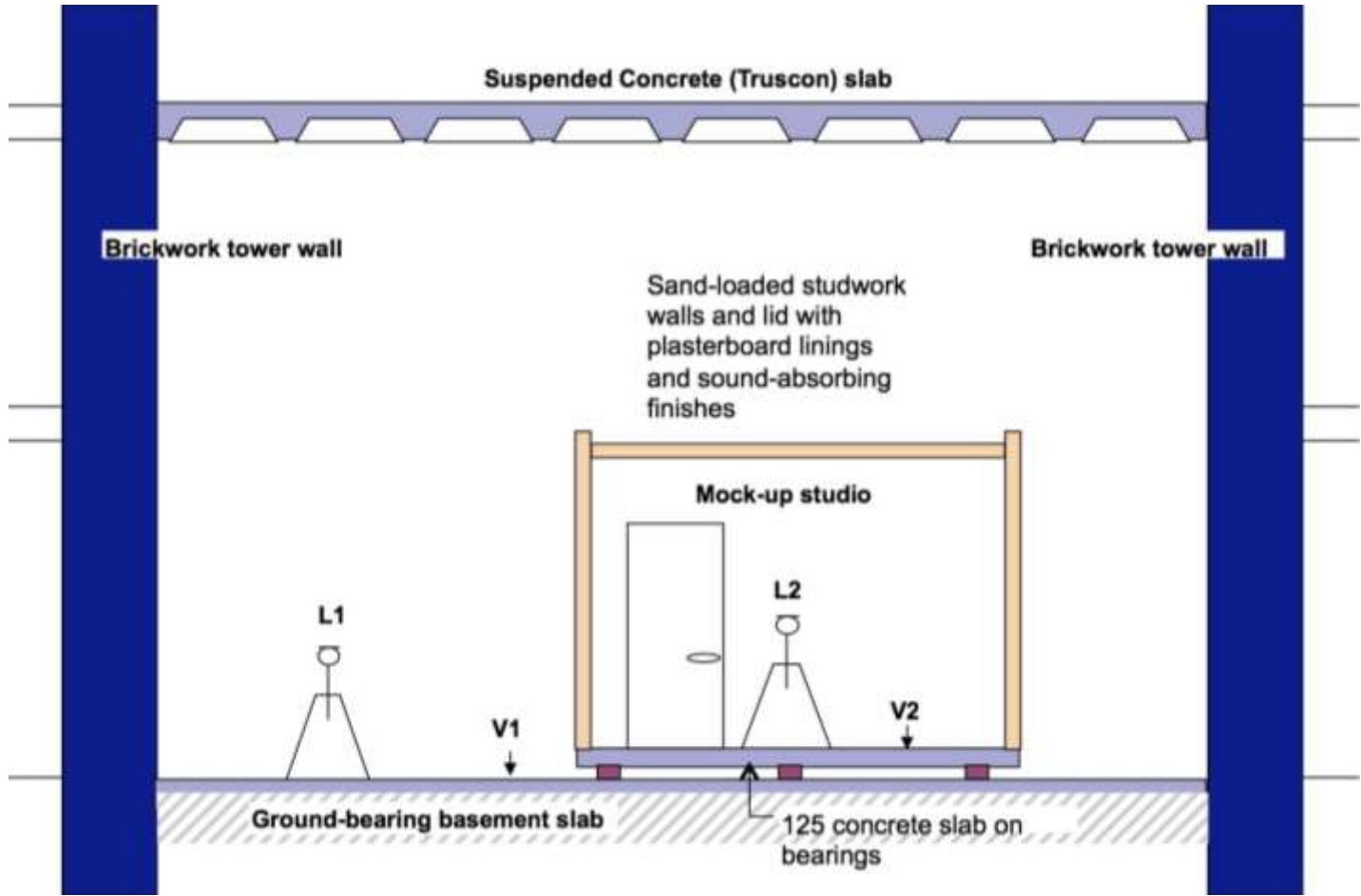
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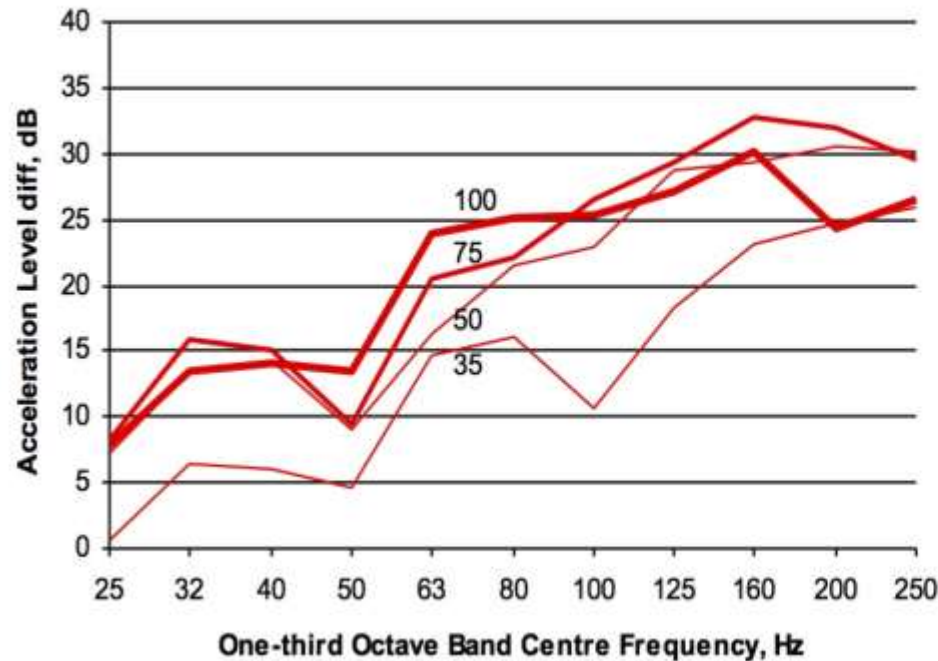


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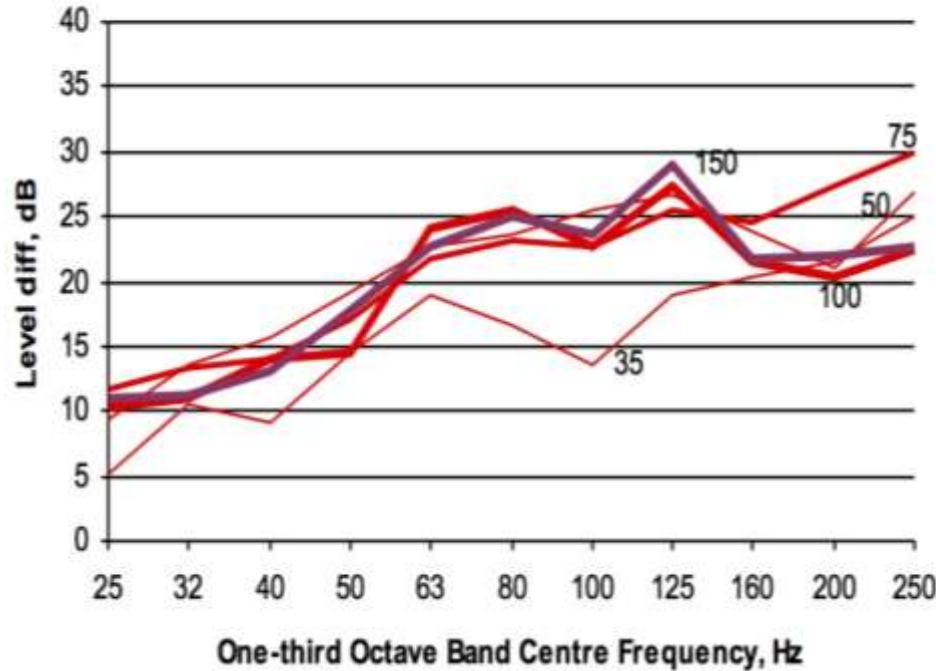
### 50-80Hz Summary

Cavity mm	dB
35	12
50	16
75	17
100	21
150	22

There is no significant increase in isolation beyond a cavity depth of 100mm.



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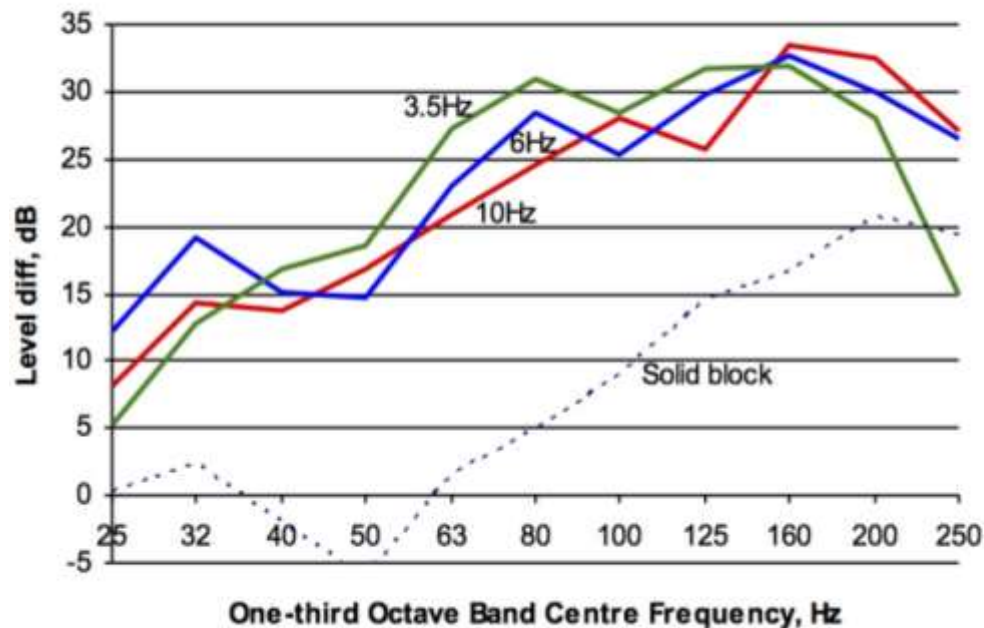
### 50-80Hz Summary

Cavity mm	dB
35	17
50	22
75	21
100	21
150	22

Noise isolation is higher than vibration isolation figures until cavity width reaches 100mm. Limit remains at 21-22 dB.



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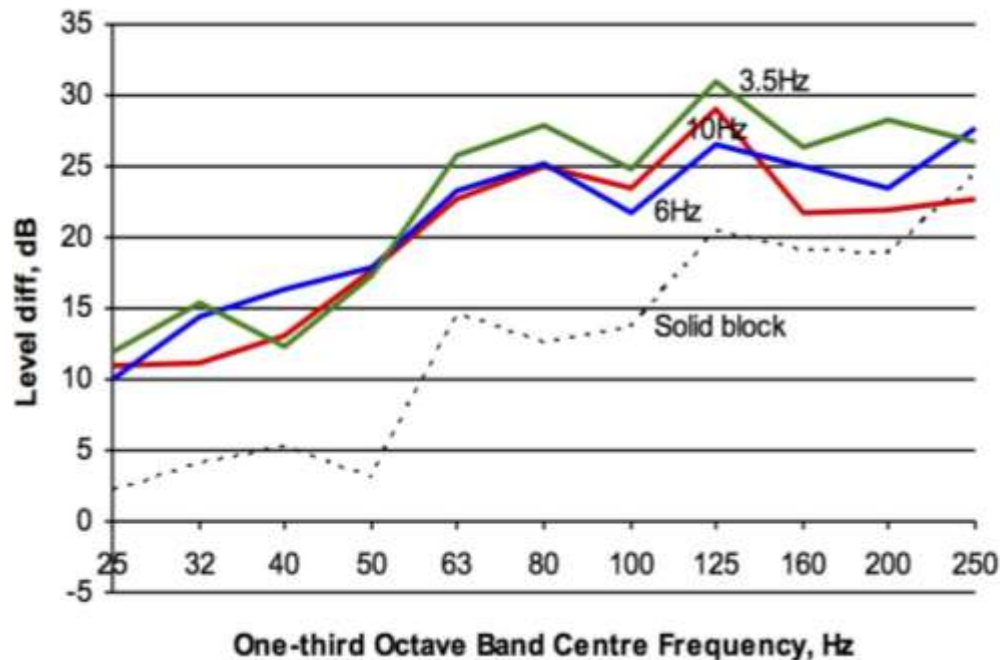
### 50-80Hz Summary

Mount $f_0$ Hz	dB
Solid	0
10	21
6	22
3.5	26

Improved vibration isolation figure is obtained from the 3.5Hz spring isolator. Solid mounting provides some isolation above 80Hz



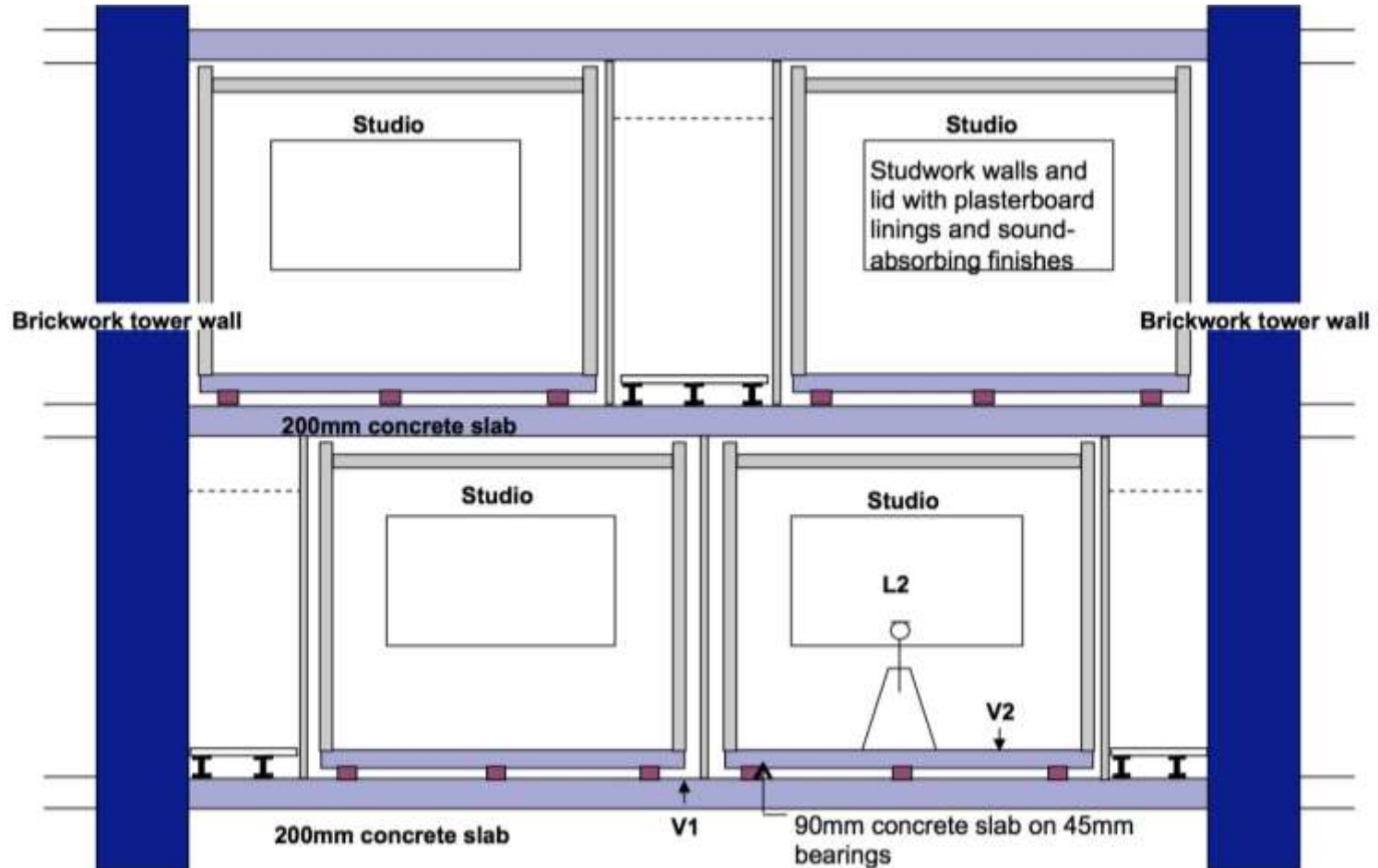
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### 50-80Hz Summary

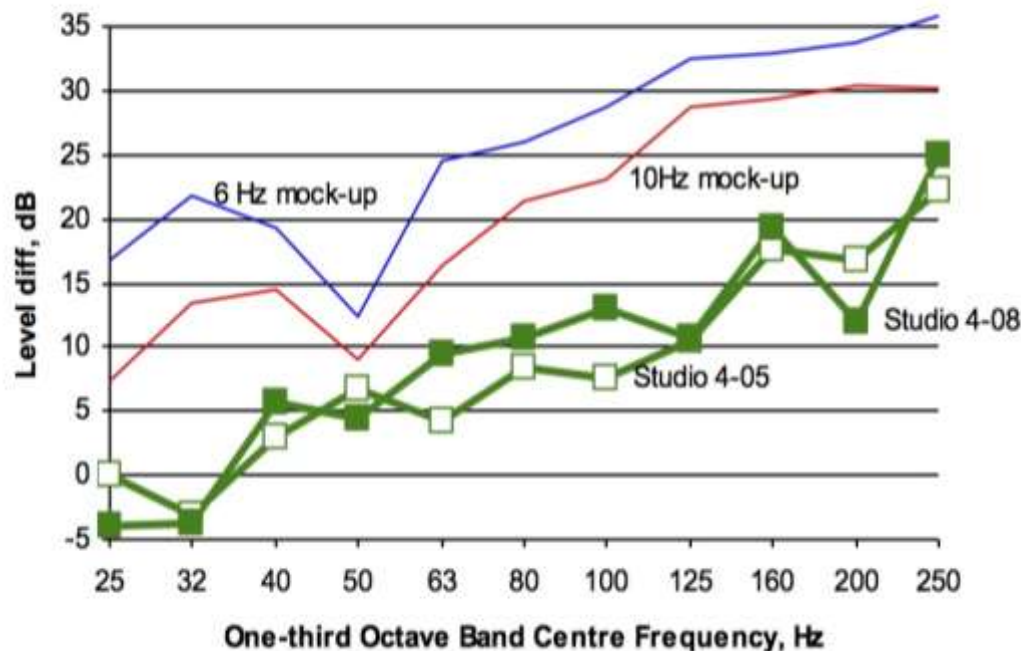
Mount $f_0$ Hz	dB
Solid	10
10	22
6	21
3.5	24

Slightly improved noise isolation figure is obtained from the 3.5Hz spring isolator. Solid mounting provides 10dB.





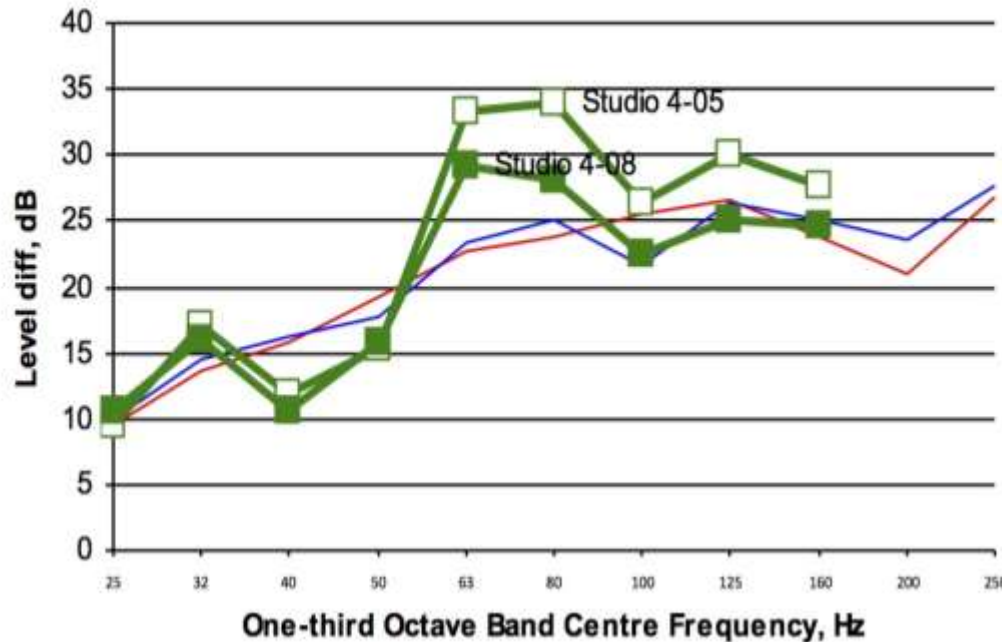
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### 50-80Hz Summary

	dB
Studios	7.4
10Hz mock up	15.6
6Hz mock up	20.9

Significantly lower isolation was achieved in the actual studios, constructed on suspended upper floor slabs.



### 50-80Hz Summary

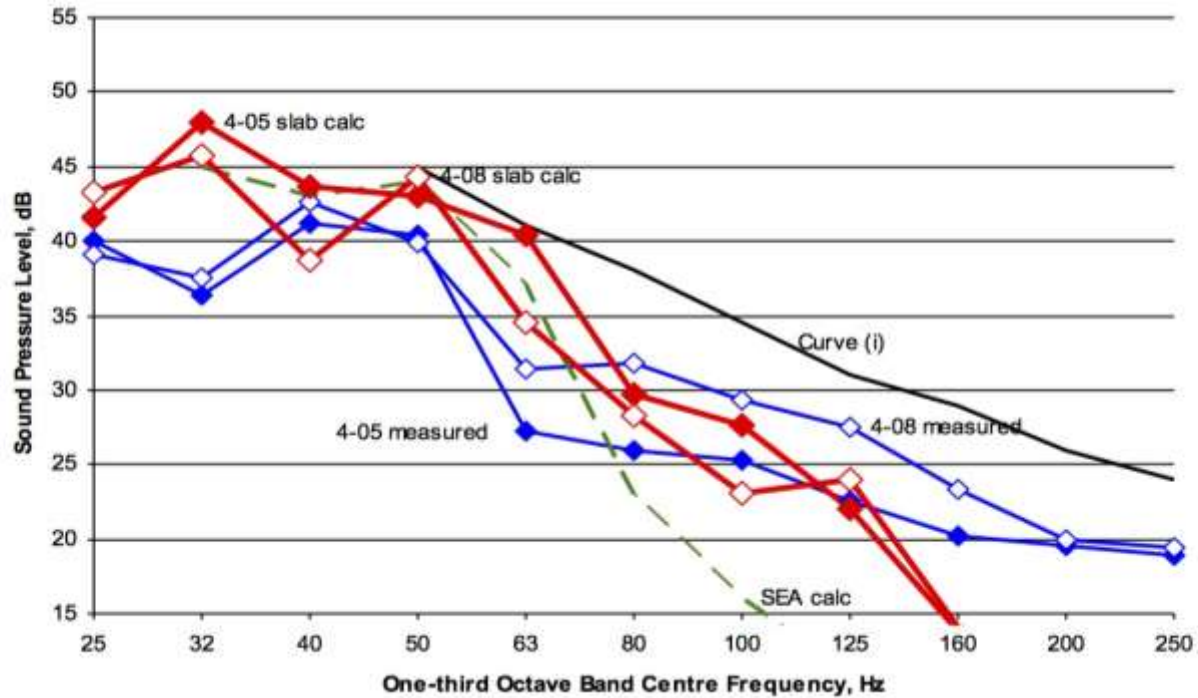
	dB
Studios	25.9
10Hz mock up	21.9
6Hz mock up	22.1

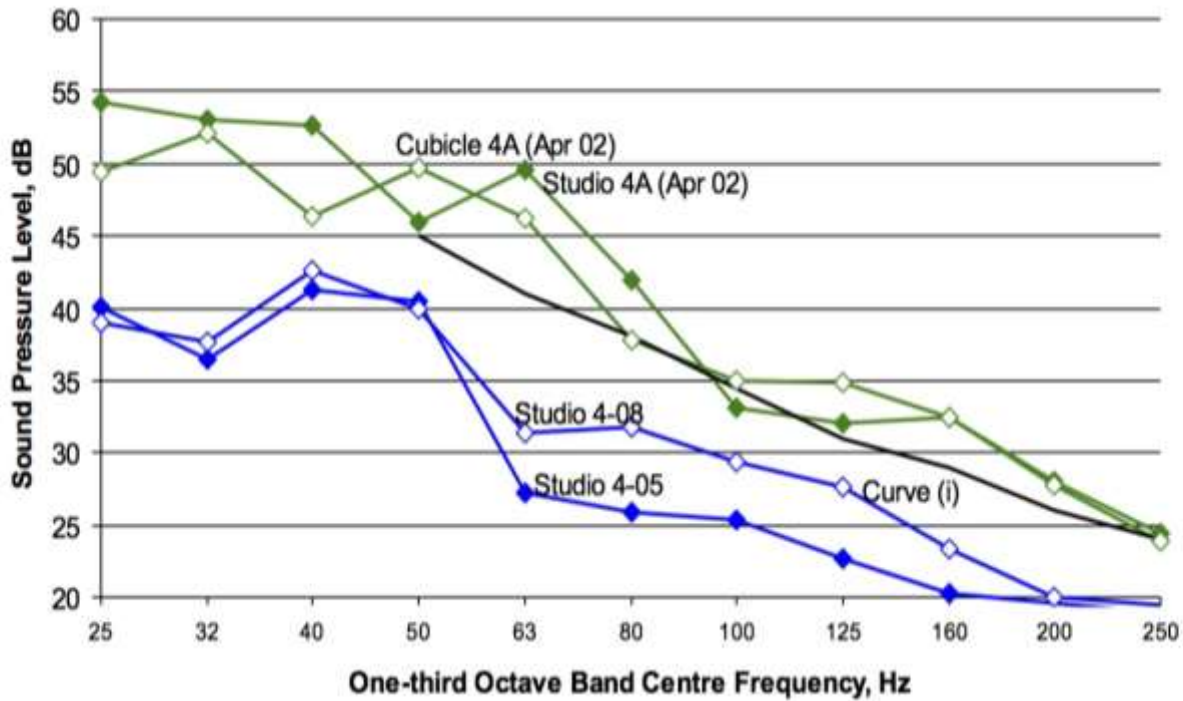
Estimated noise isolation was comparable to that measured in the mock-up.





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**Thank You**

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