

# Sound Insulation Prediction (v9.0.24)

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Margin of error is generally within  $R_w \pm 3$  dB

Clement Acoustics - Key No. 6516

Job Name:

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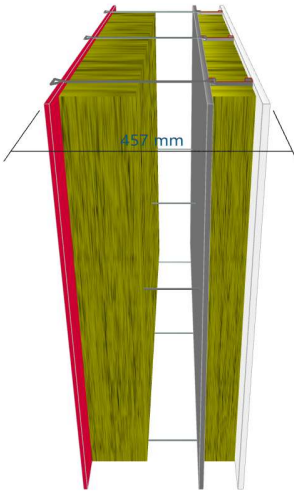
Job No.:

Date:20/09/2023

File Name:Bay Study - Sawtooth Brickwork (10mm brickwork).ixl



Notes:



**R<sub>w</sub> 53 dB**  
 C -1 dB  
 Ctr -2 dB

Mass-air-mass resonant frequency = 32 Hz, 76 Hz

Panel Size = 2.7 m x 4.0 m

Partition surface mass = 47.2 kg/m<sup>2</sup>

## System description

Panel 1 : 1 x 10 mm Brick ( $\rho$ :1600 kg/m<sup>3</sup>, $E$ :8.9GPa, $\eta$ :0.00,  $\rho_s$ :16 kg/m<sup>2</sup>,  $f_c$ :2750 Hz)

Frame: Butterfly Tie (3.2E2 mm x 45 mm), Stud spacing 600 mm; Cavity Width 320 mm, 1 x Fibreglass (10kg/m<sup>3</sup>) Thickness 170 mm

Panel 2 : 1 x 12 mm Fibre Cement ( $\rho$ :1560 kg/m<sup>3</sup>, $E$ :7.3GPa, $\eta$ :0.01,  $\rho_s$ :18.7 kg/m<sup>2</sup>,  $f_c$ :2500 Hz)

Frame: Steel Stud (1.0-1.6mm) (1E2 mm x 38 mm), Stud spacing 600 mm; Cavity Width 100 mm, 1 x Fibreglass (10kg/m<sup>3</sup>) Thickness 100 mm

Panel 3 : 1 x 15 mm Gyproc Wallboard 15mm ( $\rho$ :653 kg/m<sup>3</sup>, $E$ :1.1GPa, $\eta$ :0.01,  $\rho_s$ :9.79 kg/m<sup>2</sup>,  $f_c$ :3277 Hz)

freq.(Hz)	R(dB)	R(dB)
50	23	
63	27	26
80	32	
100	39	
125	42	41
160	43	
200	45	
250	47	47
315	48	
400	50	
500	52	51
630	53	
800	55	
1000	56	55
1250	55	
1600	54	
2000	54	52
2500	49	
3150	56	
4000	64	59
5000	66	

