

# **Acoustic Study (Room- (G00-AU-02)).**

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Enoshmink Science Center

*09-18-2023*

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### I. Room Specifications.

Room Type: Lecture and classrooms.

Background Noise: 25 (dB)

Room Length: 9.60(m)

Room Width: 8.15(m)

Room Height: 2.85(m)

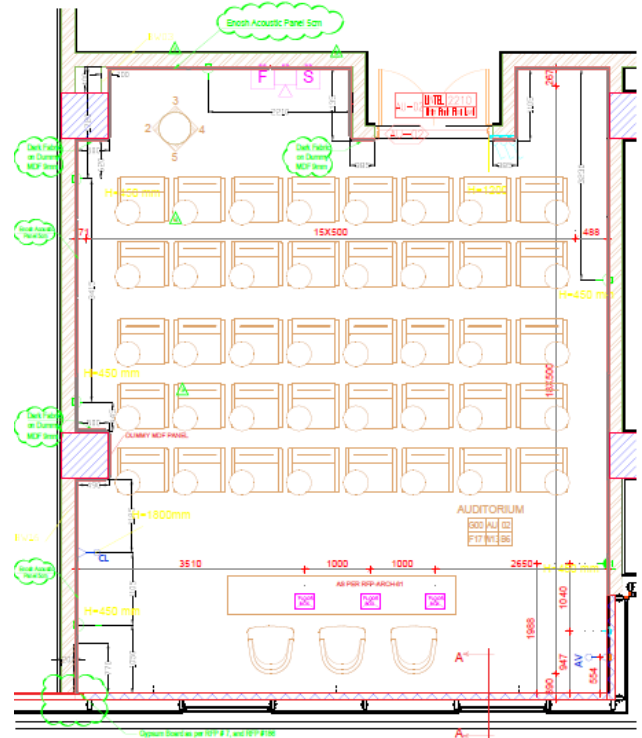
Room Area: 78.24(m<sup>2</sup>)

Room Volume: 222.98(m<sup>3</sup>)

#### I.I Lecture and classrooms.

##### Technical Specs

35 dB.



### II. Room Treatment.

Walls	Isolation Thickness
Front Wall	plaster,on_concrete_block
Back Wall	plaster,on_concrete_block
Right Wall	plaster,on_concrete_block
Left Wall	plaster,on_concrete_block

<b>Ceiling</b>	Gypsumboard
<b>Floor</b>	carpet,heavy on concrete

### III.I RT60 and Critical Area Before Adding Enosh Pallets

Frequencies (Hz)	125	250	500	1K	2K	4K
RT60	2.96	3.94	5.07	7.1	7.1	8.87
Critical Area	0.49	0.43	0.38	0.32	0.32	0.29

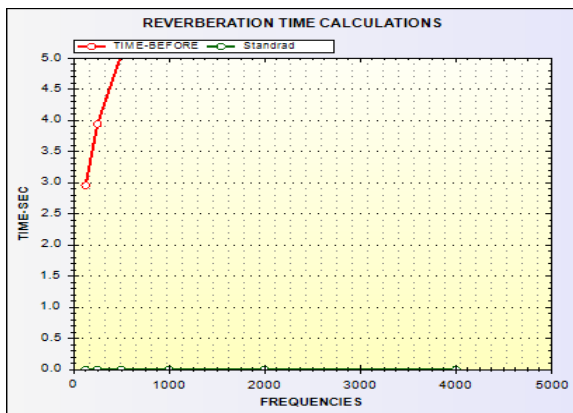


Figure 2: RT60 Before Adding Enosh Pallets.

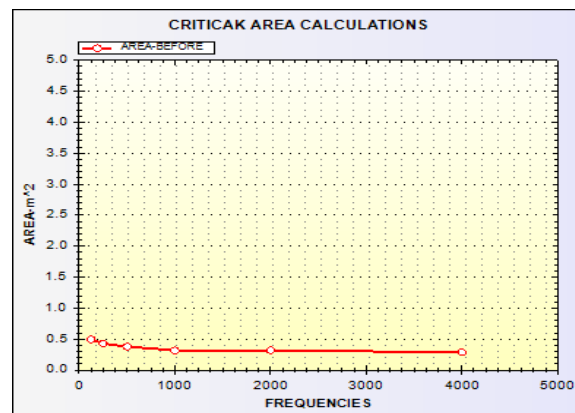


Figure 1: Critical Area Before Adding Enosh Pallets.

### III.II RT60 and Critical Area After Adding Enosh Pallets.

#### Enosh Ceiling:

Length: 9.60 m

Width: 8.15 m

Material Thickness: 2"

#### Enosh Pallets:

Number of Pallets: 10

Area: 7.824 m<sup>2</sup>  
Material Thickness: 2"

Frequencies (Hz)	125	250	500	1K	2K	4K
RT60	0.77	0.26	0.18	0.17	0.18	0.19
Critical Area	0.97	1.66	2.01	2.05	1.98	1.94

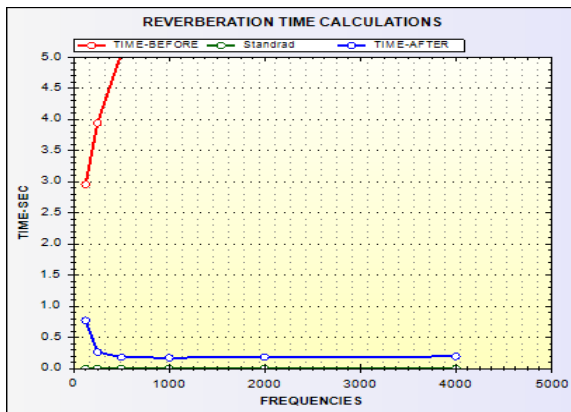


Figure 7: RT60 After Adding Enosh Pallets.

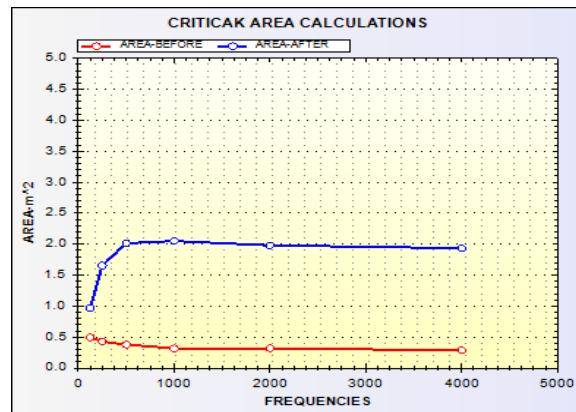


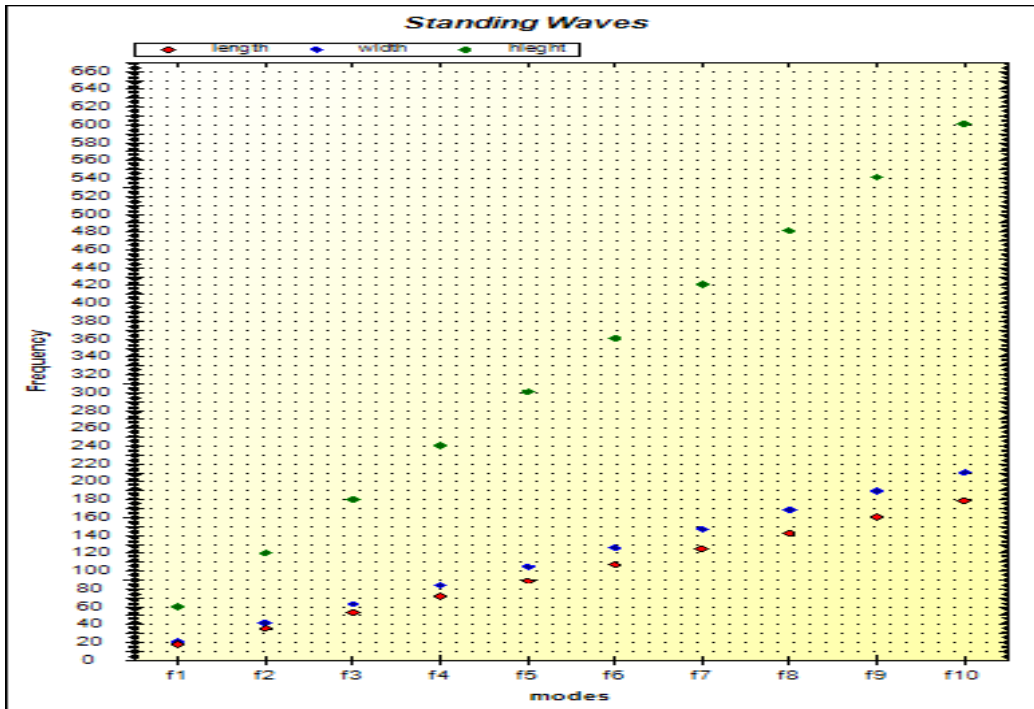
Figure 8: Critical Area Adding Enosh Pallets.

#### IV. Standing Waves

Frequency	Length	Width	Height
F1	17.86	21.04	60.18
F2	35.73	42.09	120.35
F3	53.59	63.13	180.53
F4	71.46	84.17	240.7
F5	89.32	105.21	300.88
F6	107.19	126.26	361.05
F7	125.05	147.3	421.23
F8	142.92	168.34	481.4
F9	160.78	189.39	541.58
F10	178.65	210.43	601.75

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Figure 9: Standing Waves.



### V. Speech Intelligibility.

Frequencies (Hz)	125	250	500	1K	2K	4K
Articulation Loss of Consonants	5.55	1.92	1.3	1.26	1.35	1.41
STI	0.66	0.87	0.95	0.95	0.94	0.93