

Acoustic Barrier

Applications Notes

Studies have shown that motor vehicle noise is significant and the construction of traffic noise barriers (sound walls) has been the most effective mechanism to mitigate vehicle noise for residents living next to high density roadways.

If there is no obstacle in between the sound source and receiver, sound is transmitted via a direct path. However, if there is a impediments between the source and the receiver, the noise is diffracted above the obstacle and therefore sound is attenuated.

Most of the barrier can attenuate the noise level by 10 dB. Although 15 dB reduction is difficult to achieve but it is possible by using a higher structure and better selection of the materials.

Introduction

Attenuation due to barrier is related to how much further the sound is forced to travel in going around the screen compared with the direct path. The important quantity is the extra distance δ , as given in the formula $\delta = A + B - d$



Acoustic Barrier at Padang Rengas

Panels Details			
Length (mm)	Height (mm)	Thickness (mm)	Weight (kg/m ²)
2125	500	95	26

Construction

ISTIQ ACOUSTIC BARRIER are made from panels. And these panels are made of from galvanised metal sheet, both front and back of the panels. In between, acoustic infill (rockwool or fibre glass) is used to absorb noise. In front of the panels slit punch is applied as to maximize the absorption and at the same time prevent any water to penetrate in the panels. The thickness of these panels is approximately 95 mm thick. Different acoustic infill and different thickness of metal sheet can be used depending on the application to ensure excellent performance and cost effectiveness without sacrificing quality.

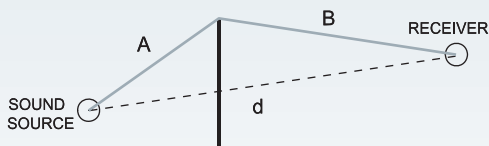
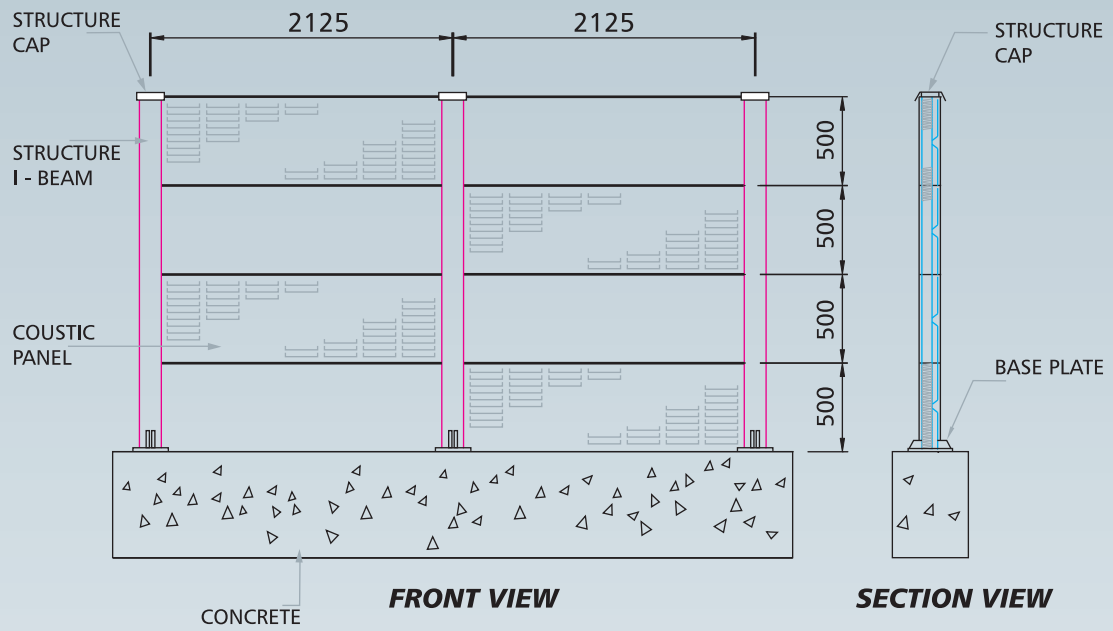


Table 1 - Additional Attenuation Due to Barriers

Freq (Hz)	63	125	250	500	1k	2k	4k
δ (m)							
0.3	8	9	10	13	16	18	20
1	11	12	14	18	20	23	25
2	14	15	18	20	24	27	29
3	15	17	20	22	25	28	30
4	16	18	20	24	26	30	31
5	16	18	21	25	27	30	32



Detail drawing of Acoustic Barrier



Section of Acoustic Panel

