

Sound Transmission Loss

Typical traffic noise at street level ranges between 60 – 100 decibels (dB), while air traffic noise ranges between 80 – 115 dB.

Sound transmission loss (STL) for acrylic panel is related to it's thickness and the frequency of the noise. For highway noise barrier made of acrylic, the STL is approximately 28 – 35 dB for a 0.5-inch sheet, and approximately 33 – 43 dB for a 1-inch sheet for noise frequencies between 125 – 4000 Hz. The following table lists the detailed breakdown of STL versus frequency for different sheet thicknesses.

Frequency (Hz)	Decibal Sound Transmission Loss for Acrylic Panels of Thicknesses of			
	0.125 inch	0.25 inch	.50 inch	1.0 inch
125	20	26	28	33
160	18	24	28	33
175	18	23	28	33
200	18	23	29	33
250	18	24	28	33
315	17	22	29	34
350	18	23	30	35
400	18	24	31	35
500	20	26	33	37
630	22	27	34	37
700	23	28	35	38
800	24	30	36	39
1000	25	30	38	39
1250	25	32	38	35
1400	27	32	38	33
1600	28	33	38	32
2000	29	34	37	36
2500	30	34	32	40
2800	30	34	31	41
3150	31	34	30	43
4000	32	34	35	46

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