Noise reduction of an enclosed booth · NIC according to ASTM E413

SPB33S – soundproof booth, single layer

Noise reduction of the **complete assembled booth** · SPB33 with single-layer interior panels, 100 × 100 × 200 cm

BOOTH NOISE REDUCTION

NIC = 25

Weighted rating EN ISO 717-1 (calculation)

25 dB $(C; C_{tr})$ = (−1; −6) dB

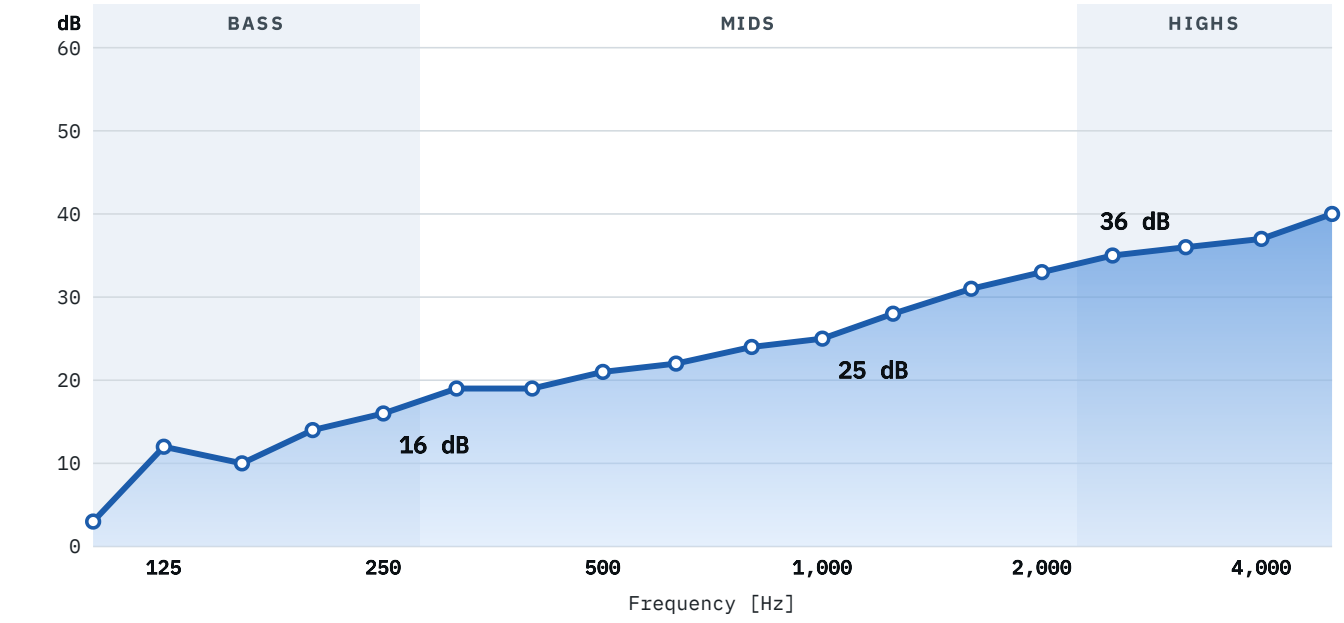
1. Measured noise reduction in one-third octave bands

F [HZ]	100	125	160	200	250	315	400	500	630	800	1,000	1,250	1,600	2,000	2,500	3,150	4,000	5,000
NR [dB]	3	12	10	14	16	19	19	21	22	24	25	28	31	33	35	36	37	40

Source of values: report RAL™-NR19-002, page 6 (annex to this document).

Octave bands from the report (125–160 / 200–315 / 400–630 / 800–1250 / 1600–2500 / 3150–5000 Hz): 7 / 16 / 21 / 25 / 32 / 37 dB.

2. Noise reduction by frequency



booth noise reduction measured in the laboratory (in decibels)

3. Calculation according to EN ISO 717-1

F [HZ]	NR [DB]	SHIFTED REF. CURVE [DB]	UNFAVOURABLE DEVIATION [DB]
100	3	6	3
125	12	9	–
160	10	12	2
200	14	15	1
250	16	18	2
315	19	21	2
400	19	24	5
500	21	25	4
630	22	26	4
800	24	27	3
1,000	25	28	3
1,250	28	29	1
1,600	31	29	–
2,000	33	29	–
2,500	35	29	–
3,150	36	29	–
Sum of unfavourable deviations (100–3,150 Hz) — limit of the standard ≤ 32 dB			**30**

The EN ISO 717-1 procedure was applied to the booth noise reduction values measured by the ASTM E596 method (informative calculation, not a measurement according to EN ISO 11957). The reference curve is shifted in steps of 1 dB until the sum of unfavourable deviations no longer exceeds 32 dB; the value of the shifted curve at 500 Hz is 25 dB. Adaptation terms C = −1 dB (pink noise) and C_{tr} = −6 dB (traffic noise) express the influence of the noise source spectrum.

4. Underlying laboratory measurement

Laboratory	Riverbank Acoustical Laboratories, 1512 S Batavia Ave, Geneva, IL, USA — NVLAP accreditation (Lab Code 100227-0), ISO/IEC 17025:2017
Report	RAL™-NR19-002, measured 13 November 2019
Method	ASTM E596-96 (2016): laboratory measurement of the noise reduction of an enclosed booth; single-number rating NIC according to ASTM E413
Specimen	SPB 33-S – single layer interior blanket vocal booth (booth with single-layer interior panels), assembled booth 100 × 100 × 200 cm

5. Notice

This document was issued by VocalBoothToGo-EU s.r.o. It is not a laboratory report and Riverbank Acoustical Laboratories is not its author. The NIC value is taken from the laboratory report; the weighted rating according to EN ISO 717-1 is a calculation from the measured one-third octave values (ASTM E596 method), not a measurement according to EN ISO 11957.

The results apply to the tested SPB33 booth in the stated version. The laboratory's original report is attached unchanged as an annex (excerpt: pages 6 and 8 of 9).

Annex: Riverbank Acoustical Laboratories report RAL™-NR19-002 (excerpt, 2 pages of 9, original).

Prepared by: VocalBoothToGo-EU s.r.o.

Date: 7 October 2026

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An ALION Technical Center

Test Report

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Vocal Booth To Go
2019-11-13

TEST RESULTS

Noise reduction values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The maximum uncertainties for noise reduction levels recommended in ASTM E596-96 (2016) are as follows: 125 Hz to 160 Hz, 3.0 dB; 200 Hz to 250 Hz, 2.0 dB; 315 Hz to 4,000 Hz, 1.0 dB.

Frequency (Hz)	Noise Reduction (NR)	Octave Band Noise Reduction (NR_{oct})	Measurement Uncertainty (Δ_{NR})
100	3		
125	12	7	3.28
160	10		5.13
200	14		3.29
250	16	16	1.99
315	19		1.16
400	19		0.92
500	21	21	0.97
630	22		1.13
800	24		0.51
1000	25	25	1.06
1250	28		1.51
1600	31		2.57
2000	33	32	2.93
2500	35		1.35
3150	36		1.24
4000	37	37	1.63
5000	40		
NIC	**25**		

NVLAP TESTING
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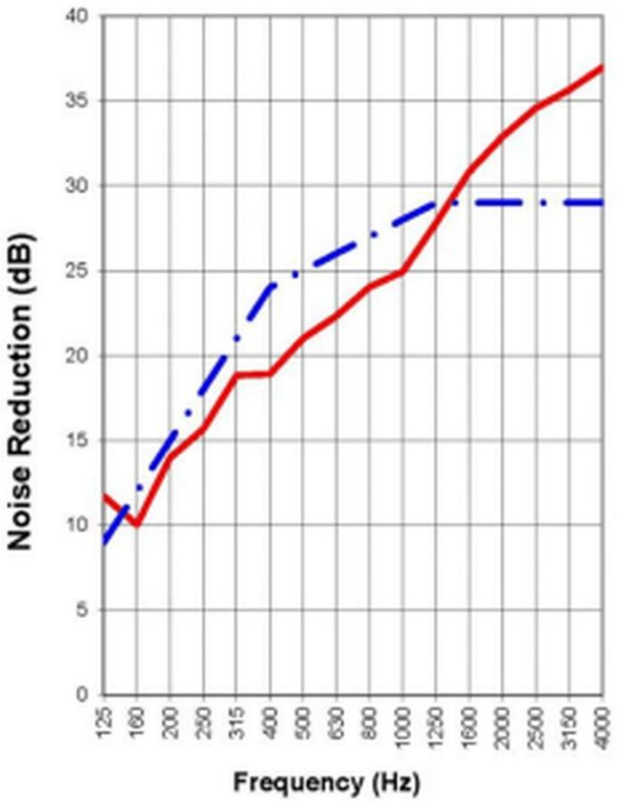
Test Report

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Vocal Booth To Go
2019-11-13

NOISE REDUCTION REPORT

SPB 33-S single layer interior blanket vocal booth



NIC= 25

NOISE REDUCTION (dB)
NOISE ISOLATION CLASS CONTOUR

NVLAP TESTING
NVLAP LAB CODE 100227-0

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